### EVALUATION OF I. C. D. S. (INTEGRATED-CHILD DEVELOPMENT SERVICES) SCHEME A COMPARATIVE STUDY

## THESIS

FOR THE DEGREE OF

## DOCTOR OF MEDICINE

( SOCIAL AND PREVENTIVE MEDICINE )



# BUNDELKHAND UNIVERSITY JHANSI (U. P.)

#### CERTIFICATE

This is to certify that the present work

"EVALUATION OF I.C.D.S. (INTEGRATED CHILD DEVELOPMENT

SERVICES) SCHEME - A COMPARATIVE STUDY\* has been

carried-out by DR. ASHOK KUMAR GUFTA, under our constant

supervision and guidance. The observations were checked

and verified by us from time to time.

The thesis fulfils the basic ordinances governing the submission of thesis for M.D., laid down by the Bundelkhand University.

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ACKNOWLEDGENERTS

#### ACKN JULEDCEMENTS

I wish to empress my deep sense of gratitude to my revered and elite teacher, Prof. Arun Kumar, M.D., F.I.S.C.D., Head of the Department of Social and Preventive Medicine, M.L.S. Medical College, Jhansi (U.P.) for his keen interest, esteemed inspiration, generous affection and invaluable suggestions to accomplish the work.

I am very much grateful to Dr. S.B. Gupta, M.D., M.O.H.-Cum-Lecturer, Department of Social and Preventive Medicine, M.L.B. Medical College, Jhansi (U.P.) for his enlightening guidence and sympathetic concern in execution of this work.

I am also thankful to Dr. B.L. Verma, Ph.D.(Stat.), Reader in Medical Statistics, Department of Social and Preventive Medicine, M.L.B. Medical College, Jhansi (U.P.) for his suggestions and kind help in the Statistical analysis of data.

I entend my sincere thanks to my teachers in the Department - Dr. (Mrs.) M. Dabral, M.D., Reeder, Dr. A.K. Malhotra, M.D., Lecturer, and Dr.(Mrs.) M. Govil, M.D., Lecturer, for their kind co-operation and valuable suggestions during the period of study.

posted in Social & Preventive Medicine Department, M.L.B. Medical College, Jhansi (U.F.) deserve special mention for the commendable work they have done in this thesis.

Last but not the least, words can hardly express my feelings to the children and their parents covered in this study for their co-operation.

I am also grateful to Mr. K.M. Thomas, for his help in bringing out this script in typed form. Every line of the script bears his been interest and skilful labour.

Lastly, I offer my whole-hearted gratitudes to all of them who, directly or indirectly, have made it possible for me to present this work in this form.

Dated : 9/9/88

(AK)exptq ( ASHOK KUMAR GUPTA )

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INTRODUCTION

"Many things we need can wait. The child cannot. Right now is the time his bones are being formed, his blood is being made and his senses being developed. To him we cannot enswer 'Tomorrow'. His name is 'Today'".

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#### 1. <u>INTRODUCTION</u>

In all countries children are loved and have a special place in people's lives, but a large number of them become a cause for sorrow because of illness or untimely death. The situation is specially grave in developing countries where hunger and diseases are main reasons for a collosal waste of life at an early age. These children do not die due to any exotic or grave illnesses but due to common diseases like diarrhoea, respiratory infections or from diseases easily preventable by immunisation. Malnutrition is another contributory factor leading to infections, and infections in turn, increase energy demands and decrease food absorption, so even the food that is available to these children is not absorbed thus making them more vulnerable to further infections.

India, one of the developing countries, has made a tremendous progress in almost all fields, such as agriculture, production, industrial development, technological advancement and improvement of health status of people during the past 35 years, resulting in the remarkable decrease in death rate (from 25.4 per 1000 in 1941-51 to 14.6 per 1000 in 1975-85) and spectagular

increase in life expectancy at birth (from 32 years in 1951 to above 54 years at present). However, inspite of wast strides taken in many fields, the health status of children specially below 6 years of age has not improved adequately. The major problem in our country is that about 80 percent of the total population lives in rural areas where basic requirements of life are not available. Poverty, ignorence, illiteracy, lack of medical facilities etc. further enhance the morbidity and mortality in this age group.

High mortality in infants and pre-school children is a common feature of all developing countries including India. The basic causes of high infant mortality being the poor nutritional status of infants, over exposure to massive doses of pathogenic micro-organisms and community's excessive fertility (Chandra Shekhar, 1972). These causes interact, supplement and reinforce each other.

Pre-school children are most seriously affected
by protein emergy malnutrition, nutritional ensemis and
vitamin deficiencies because the nutritional requirements
of these children are proportionally higher for body weight
than those of adults and also, for cultural reasons and
economic constraints, they are given less nutritious diet.
In addition, they are often affected by intermittent
infections. Poor placental transmission of iron from
an aemic mother, improper weaming, deficient dietary iron

intake, G.I.T. disorders and parasitic infections are some of the important factors responsible for high prevalence of anaemia in this age group. In rural areas other contributing factors are superstition, ignorance, false beliefs and poor environmental conditions.

are closely interwoven into the matrix of their sociocultural milieu. A joint WHO/UNICEF meeting in Geneva in
October '79 highlighted the child health problem related
to infant and young child feeding practices. It states
that poor infant feeding practices and their consequences
are one of the major problems of the world and a severe
obstacle to social and economic development. Breast feeding
has been accepted as natural diet for new born baby by
nearly all Indian rural mothers but variations may be in
practices of supplementary feeding.

number of schemes have been implemented in India, one such scheme known as Integrated Child Development Services (I.C.D.S.) was launched in 1975, the objective of which is to improve the nutritional and health status of children below 6 years of age and to lay foundation for proper psychological, physical and social development of the child. To achieve the objective a package of services comprising of supplementary nutrition, immunisation,

health check-up, referral services, health and nutritional education and norformal education is provided in an integrated manner to the children below 6 years of age and expectant and nursing mothers.

The package of services is delivered at a community centre known as Anganwadi centre in each village covering the population of about 1000. The key person who provides these services is designated as Anganwadi Worker (A.W.W.) who invariably a female and selected from the local community. Anganwadi Worker is assisted by a helper who is also from the same area. The work of 20 Anganwadi Worker is supervised by one Mukhya Sevika. The child development project officer (C.D.P.O.) is overall incharge of project in one community development block.

and involving department of social welfare, health education and rural development. The scheme since its inception, has received varied comments and observations (Sunder Lal, 1980 & Patowari, 1982) creating doubt in the minds of people and administrators alike. It was, therefore, thought desirable to evaluate the L.C.D.S. scheme in one of the project - Chirgaon, Jhansi (U.P.), where the scheme was started in 1980-81.

#### Aims and Objectives :

The specific objectives of the present study are :

- To study the nutritional status and morbidity of children below 6 years of age covered under I.C.D.S. scheme and compared with children not receiving I.C.D.S. care.
- 2. To assess the utilization of health services by the population in I.C.D.S. care in comparison to the population not receiving the I.C.D.S. care.
- 3. To see the impact of I.C.D.S. services on mortality status of children below 6 years of age by comparing it with the children not receiving the I.C.D.S. care.
- 4. To identify areas of relative inactivity in the I.C.D.S. scheme requiring of augmentation.
- 5. To suggest measures for more effective implementation of the scheme.

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REVIEW OF LITERATURE

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#### CHAPTER LI

#### 2. REVIEW OF LITERATURE

#### 2.1 HISTORICAL

The care of children must have been one of the mankinds greatest pre-occupation from time immemorial. Scattered information is available regarding infant care, feeding and certain diseases in the ancient literature of Egypt, Babylon, Greece and Rome of 16th century B.C. (Landsberger, 1964). The description of diphtheria, mumps, division of umblical cord, salting the baby body with soda ash, importance of wet nurses, stress on breast feeding and avoidance of colostrum etc. finds a mention in this literature.

There are extensive references about child care in ancient Indian ecriptures. Discussion on planned parenthood, antenatal care of mother, care of infants, their feeding on breast and animal milk are given in great details in vedic literature. Charak Samhita, anti-dating Buddha, has not only given a catalogue of child diseases and their management but also lays specific instruction regarding breast feeding and selection of wet nurses. The value of cov milk for infant feeding was well established in India as early as 6,000 years ago (Eckles et al. 1943). Likewise,

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Busruta, as observed by Limmer (1948) in his book on Hindu Medicine, advices the physician to supervise the initial feeding of the new born. The universal practice of 'Annaprashan' - administration of semi solid foods at 6 months, though very old still holds good. Jiwaka, the court physician of King Bimbisara (298 B.C. - 273 B.C.) popularly known as 'Kumara-bhrtya' has written an excellent treatise on numerous diseases of children such as cirrhosis of liver, encephalitis, eruptive fever, diarrhoea etc.

In the middle ages super natural orientation and medico-religious ideas continued to dominate the concept of medicine. Ritual mutilation such as circumcision, scarification, scalding and ceremonial painting of child's body were practised, so to say for prevention of diseases (mettler, 1947).

In 19th century in England, the children received scenty attention. Nortality rate was appalling and of London's 50,000 annual deaths, 21,000 were of children under 10 years (Higgins, 1952). However, in the 19th century itself the ground for modern concept of child care programmes was prepared replacing earlier religious attitude by scientific approach. Institutional care of the children was reorganised giving rise to establishment of separate children's hospital in France, Germany, England, America and other countries.

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#### 2.1.1 Child Care in India - Twentieth Century Lend Harks

In India, though a lot more requires to be done, one has witnessed substantial progress since the turn of the present century regarding child care. Certain important land marks in India have been as follows:

#### 2.1.1.1 Fre independence

- In 1902, programmes for the training of dais was instituted, for the supervisions of dais work, Lady Reading Health School was established in Delhi to train the midwifery supervisors and health visitors.
- 11) Consequent upon passing of the Child Welfare Act -1918, Lady Chelmsford All India League, another voluntary organisation was constituted in 1920 to initiate child welfare work.
- iii) Maternity and Child Welfare Bureau under Indian Red Cross was established to coordinate the working of the voluntary agencies in 1930.
- iv) D.M.C.W. course was established in 1933 at All India Institute of Hygiene and Public Health, Calcutta for women doctors to qualify in maternity and child welfate work.
  - 4) The Central Board of Heelth epycinted a committee is 1937 to report on meternity and child welfare work in the country.

vi) Around 1940, two more all India voluntary organisations, Kasturba Memorial Trust and Indian Council of Child Welfare came into being.

#### 2.1.1.2 Post Independence

Prior to independence, the maternity and child welfare was mostly looked after by voluntary organisations. In 1948, the post of Adviser Maternity and Child Welfare was created in the office of Director General of Health Services; and the Government of India impressed upon the states the need for strengthening their maternity and child health services.

#### (i) First Five Year Plan (1951-56)

Government of India provided financial assistance to State Governments resulting in the establishment of 1000 maternity and child welfare units by the end of the plan. Expansion and improvement of nine health schools engaged in the training of health visitors and midwives, was also carried out. Assistance was given for upgrading Paediatric departments of four medical colleges.

#### (11) Second Five Year Plan (1956-1961)

In this plan natornity and child welfers became integral part of the Primary Health Centres. There were 4500 Natornity and Child Welfers Centres in the States apart from Primary Health Centres.

#### (111) Third Five Year Plan (1961-66)

child welfare extended over the spheres of social welfare, education, health and community development departments. There was a link-up of the maternity and child health services associated with primary health units with extended facilities in referal and district hospitals.

#### (iv) Fourth Five Year Plan (1969-74)

Social welfare sector introduced many family and child welfare projects. The concept was to promote child development and the focus was on family. The main feature of this plan were basic training of women in home-craft, health, education, nutrition and child care.

#### (v) Fifth Five Year Plan (1974-79)

In this plan, more importance was placed on pre-school years. The scheme of integrated child development services was introduced.

#### (vi) Sixth Five Year Flan (1980-85)

A distinct recognition of the importance of child health was the highlight of this plan. The Government of India took decision to upgrade one out of the four Primary Health Centres as Community Health Centre having the specialities viz. medicine, surgery, gynaecology and paediatrics. A sum of supers 250 - 300 croses for maternal and child health was allocated. Increasing the Ind.Deb.

Projects to 1000 had been envisaged in the plan period (Dayal, 1982). Over and above these, the health and well-being of the mothers and children received due place in the 20 Points Programme of the Prime Minister of India.

#### (vii) Seventh Five Year Plan (1986-90)

A major component in this plan is the expansion of the social infrastructure for education, family welfare, health care, water supply and samitation. As a result, the poverty ratio is expected to decline from 36.9% in 1984-85 to 25.8 percent in 1989-90 and simultaneously secure satisfaction of the basic needs of food, clothing and shelter and provide health for all. In this plan, target is to increase the coverage of elementary education in the age group of 6-14 years to 92%. The aim of this plan is to create, by the year 2000, the conditions necessary for self sustaining growth and to provide the basic material requisites of well being for all our people.

The major thrust of maternal and child health (MCH) care, in accordance with the National Health Policy, in the Seventh Five Year Plan would be as follows:

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(1) Health care for mothers and children will be strengthened through the primary health care approach, which includes integrated comprehensive MCH care and suitable strengthening of referral services.

- ii) Recognising the close relationship that exists between high birth rate and high infant mortality.

  a high priority should be given to MCH programme.
- iii) Preventive, promotive and educational aspects of MCH services will be given the highest priority.
  - iv) Efforts should be made to maximise the use of 1.C.D.b. infrastructure for the enhancement of MCH programmes.

#### 2.2 INTEGRATED CHILD DEVELOPMENT SERVICES SCHEPE

In persuance of national policy for children, the Government of India sanctioned the Integrated Child Development Services Scheme which was introduced on an experimental basis on 2nd October, 1975. Thirty three experimental projects were started in the different parts of the country. On the basis of encouraging results, further extension of projects into 1000 areas has been planned (Tandon, 1982). Each project aims at the delivery of a package of services in an integrated manner to preschool children, expectant and nursing mothers, and women in the age group 15-44 years.

#### 2.2.1 Objectives of L.C.D.S.

- (1) To improve the nutritional and health status of children in the age group 0-6 years.
- (ii) To lay the foundations for proper psychological, physical and social development.

- (iii) To reduce the incidence of mortality, morbidity, malnutrition and school drop outs.
  - (iv) To enhance the capability of mother to look after the normal health and nutritional needs of the child through proper nutrition as well as health aducation.
    - (v) To achieve effective co-ordination of policy and implementation amongst the various departments to promote child development.

#### 2.2.2 The Package of Services

provides a package of services (Tandon, 1982) which includes supplementary nutrition; immunisation; health check-up; nutrition and health education; referal services and non-formal education.

Supplementary nutrition is, in terms of cost, the major input in 1.C.D.S. package of services which is given to prognant women and nursing mothers, malnourished children below six years and other children aged 3-6 years attending the non-formal pre-school educational activities.

#### 2.2.3 <u>Polivery of Services</u>

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These integrated services are delivered at a community centre - Angenwedi Centre for a population of 1000.

The key staff member at this centre is the Anganwadi worker (A.W.W.), who is invariably a female and comes from the local community. Anganwadi worker is assisted by a helper who is also from the same area. Anganwadi worker and helper gets honorarium for their work, and are supervised by Mukhya Sevikas. The Child Development Project Officer (C.D.P.O.) is directly incharge of the I.C.D.S. Project concerned.

is strengthened by adding one medical officer preferably with postgraduation in child health at the Primary Health Centre and by providing additional Lady Health Visitors and Auxillary Hurse Midwives so that there is one A.H.M. for a population of about 5000 and one Lady Health Visitor for supervising the work of 4-5 A.H.Ms (Dayal, 1977).

#### 2.3 Envrionmental Samitation and Child Health

Expert Committee of the W.H.O. (1949) as 'The control of all those factors in man's physical environment which exercise or may exercise a deleterious effect on his physical development, health and survival'. The size, general health condition and maturing age of the child are influenced by the amount of fresh air and sunlight that one gets especially during the early years of life. This is evident when comparison are made between children from good and had environment (Mirlock, 1950).

Chandra Shekhar (1959) in his book "Infant Mortality in India" has stated that since infants more than any other section of the population, depend to a large extent on the environmental conditions for their survival, it would not be far wrong to say that the death of an infant in most cases is due to poor and insanitary environment.

in Lucknow found that 95.6 percent of families were consuming water from open wells, and 89.2 percent were using open field as latrines. About housing 72.0 percent were situated in congested or moderately congested locality. While singh (1970) observed that 91.0 percent families were living in congested or moderately congested areas. Cross ventilation was only in 20.0 percent houses. 94.7 percent were using open shallow wells for drinking water and 89.0 percent of population was using open field for defaccation.

A global survey conducted by W.H.O. (1976) showed that 20.0 percent of the urban and 82.0 percent of Fural population in India had no access to safe water within reasonable distance from their home, while 34.0 percent of urban population had access to a public sewerage system and only 2.0 percent of rural population was thought to have adequate excrete disposal facilities.

Deckinenden (1978) has reported that majority (46.5 percent) of children below six years were living in poor environmental conditions. On the other hand,

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Mahashwari (1981) observed that \$2.10 percent families were using open field defactation. Regarding water supply. 35.21 percent were using open shallow well for drinking purposes, 14.39 percent had handpumps. Indiscriminate throwing (42.07%) was observed the most common method for refuse disposal. Oupts et al (1984) observed that common source of drinking water in I.C.D.S. (94.2 percent) as well as non I.C.D.S. (97.8 percent) group has been open shallow wells and safe water supply observed more in I.C.D.S. area. Insanitary methods have been the commonest mode of excreta disposal in both the groups and no difference was observed in housing conditions except environment surrounding the child's house which was hygienic in respect of higher percentage in I.C.D.S. (30.7 percent) as compared to Non I.C.D.s. (18.8 percent) group.

#### 2.4 NUTRITIONAL ANTHROPOMETRY

trapled by Labracian potential factors.

Nutritional anthropometry is concerned with the measurements of the variation of physical dimensions and the gross composition of the human body at different age levels and degree of nutrition. Three main anthropometric measurements have been mostly employed in community field surveys for detecting malnutrition of early childhood and where the age is known. These are weight, length/height and mid-upper arm circumference. In addition to this, tricep's skinfold can also be unefully included. Circumference of head and chest are the two other anthropometric s years a series that he was trained that

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measurements in detecting malnutrition. These can be compared with standards if the ages are known (Jelliffee, 1966).

#### 2.4.1 <u>Weight</u>:

Five decades ago, Baldwin (1924) wrote that weight and height are probably the most sensitive measures of nutritional status of children. This is still valid, however the major draw-back of weight as an ideal anthropometric measurement is that in many communities, especially of rural areas and uneducated classes, the exact age is not known (Presed, 1976). Waterlow (1973) criticized weight for ace method of assessing mild and moderate malnutrition. He stated that it conceals two different conditions, one deficit in height for age (stunting) and other deficit in weight for height (wasting). He stressed that these condition should be assessed and differentiated separately. However, Sen et al (1980) have observed that a valid age independent estimate can be made by using weight/height? ratio in a study of children below five years in Jaipur city. They found that weight/height ratio (0.0015) was equally valid in comparison to weight for age method in detecting malnutrition.

the birth weight was doubled at 3.5 months, tripled at one year and quadripled at 2.5 years, whereas Banik at al (1970) concluded in their longitudinal study from birth to 5 years, that the birth weight was doubled at 4 months, tripled by 1.5 years and quadripled by 3 years of age.

Males were heavier than females at all ages. Bhargava et al (1980) recorded that the birth weight of male children doubled in 3 months and tripled at one year of age.

Sakshi et al (1977), in their cross-sectional study of pre-school children, representing various socio-economic groups, reported gradual increase in weight with age. The boys had higher weight than girls. Girls were 2-3 months behind the boys, 50th percentile of weight was comparable with 3rd percentile of Harvard standards. Weight of male children at the age of 5 years was in line with I.C.M.R. standards, but at the age of 2 years they were much behind the I.C.M.R. standards.

Chandra (1978) from Tamil Nadu also found higher values for weight in boys than girls in all ages. Hean weight was much lower than I.C.M.R. standards. Similar observations have been made by Verma et al (1980) from Jhansi and Tomar et al (1982) from Rajasthan and Gupta et al (1984) from Lucknow.

I.C.M.R. conducted a collaborative study on the nutritional status of pre-school children in 3 rural and 2 urban regions in the country. All anthropometric measurements of Indian children were significantly lower than American children (Tandon et al. 1981).

factor influencing the later growth in child (Bhargara et al. 1975) and, therefore, the differences in growth

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pattern of Indian and Western children may be partly due to birth weight of Indian babies being lower than that of western counterparts (Agarwal et al, 1974). A longitudinal study of physical growth from birth to six years in children with birth weight 2500 gm, or more, mainly from low socio-economic groups, showed that the growth velocity of children upto 2 years was comparable with western standards and Indian children of high income group. But after 2 years, there was decline in growth velocity. The weight of male children was recorded higher than female children from birth to 6 years (Shargawa et al, 1980).

#### 2.4.2 Height :

The eighth report of F.A.O./W.H.O. Expert Committee on nutrition emphasized upon the importance of measurement of height. The extent of height deficit in relation to age may be regarded as a measure of duration of malnutrition. This concept has been studied and confirmed by Second & Latham in their study found that the height for age gives the information about the state of past nutrition, and they suggested that stunting occurs only in chronic malnutrition. This observation was confirmed by Sashtri et al ( 1973) in their study.

Shel and Sendhu (1968) observed that the length
of birth was increased by about 50.0 percent at one year
and was doubled at 4 years of age, while Banik et al (1970)
reported increase in birth length by 50.0 percent at
1.5 years and about double at 4.5 years.

to be taller than girls except at five years age when girls had slightly higher values. On comparison with Harvard Standards, 27.4 percent children had mean height above 90.0 percent. 69.2 percent were between 81.0 - 90.0 percent and only 1.2 percent children had values below 70.0 percent of Harvard Standards. On comparison with I.C.M.R., 50th percentile in girls at 2 years was below 25th percentile of I.C.M.R., and at the age of 5 years it was little above 50th percentile of I.G.M.R. In boys at 2 years, 50th percentile of this study was little above 25th percentile and, at the age of 5 years it was little below the 50th percentile of I.C.M.R. This indicated better growth rate after passing the vulnerable period of 1-3 years.

Chandra et al (1978) found that mean height of boys was more than girls upto the age of 2 years, than girls exceeded the boys. Mean height of both sexes at all ages was below the L.C.M.R. standards. While Srivastava (1980) and Gupta et al (1984) reported that boys were taller than girls at all ages. In comparison with All India Standards, they also showed considerably lower values. Similar observations were made by Verma (1980) who further noticed that 53.4 percent of pre-school children were under-weight. While Ram (1980) from Karmataka reported 66.4 percent of children below six years of age having less value for height than expected value for that age.

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with better socio-economic status, it is possible to have growth potential similar to those of Americans. A semi-longitudinal study from birth to 14 years in different socio-economic group found mean (50th percentile) height and weight of children from higher socio-economic group well comparable with 50th percentile of American children. The mean (50th percentile) of height and weight of children of both the sexes belonging to lower socio-economic groups corresponded with 25th percentile and 10th percentile respectively of American standards (Sanik, 1982).

#### 2.5 MILE STORES OF DEVELOPMENT

Hile stones are definite land marks in growth and development of a child and they are influenced by nutritional status of children. Nathur et al (1974) in their study found that 26.5 percent of total children were having delayed mile stones and in those who were malnourished this percentage was 37.7 percent. Nagatra et al (1976) in a study of 100 cases of P.S.M. observed Growth retardation in all the cases.

Deaki Namdan (1978) in his study in pre-school children of Uttar Pradesh has also observed delayed mile stones in grade III and IV P.B.K. and Gupta et al (1984) has also observed delayed mile stones in malnourished children.

## 1-4 feb Gré producte eternésiste eternésis

It comprises of four forms - under nutrition, over nutrition, imbalance and specific deficiencies, malnutrition

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has been defined as 'a pathological state resulting from relative or absolute deficiency or excess of one or more essential nutrients (w.H.O., 1966). What makes the situation more serious is that mainutrition's main victims are children. Most vulnerable group is the pre-school children (Scrimshow, et al. 1968).

#### 2.6.1 Protein Energy Melnutrition

An emalysis of 101 community surveys conducted in 59 developing countries during 1961-1970 indicated that not less then 100 million children below 5 years of age are affected by moderate to severe degree of Protein Energy Malnutrition (W.M.O., 1976). Also Baily et al (1976) have reported that a survey carried out in children below 5 years in 26 countries between 1966-1969 showed the prevalence of severe form of Protein Energy Malnutrition to be 0.5 to 7.0 percent which gives everage prevalence of about 3.0 percent and 2.0 percent respectively. Many studies here been carried out in India regarding the problem of protein energy malnutrition in pre-school children. Numer et al (1975) from Haryana reported that 61.7 percent children had body veight below 80.0 percent and 36.2 percent below 70.0 percent of the expected weight (Hervard Standards), while Chaudhary (1975) in Calcutta found the provalence of severe P.B.M. to be 2.0 percent and mild and moderate grades of P.B.M. in 20.0 percent of pre-school children.

Rem et al (1977) reported the prevalence of third and fourth degree of Pakaka in 11.5 and 2.9 percent of pre-school children respectively in slum areas of Tamil Nadu, whereas Chandra (1978) observed severe grade of malnutrition in 21.7 percent of pre-school children. Grade one and two malnutrition (Gomes Standard) was found in 24.9 and 47.6 percent of cases respectively. On clinical examination 3.0 percent had kwashiorkor or marassus or marassus kwashiorkor. However, Aya Ram (1980) observed overall prevalence of P.E.M. to be 70.0 percent in pre-school children of Karnataka.

Cupta (1977) in his study of Health Status of Children in age group 1-4 years in rural area of Jaipur found 72.7 percent children malnourished, and 9.2 percent and 4.9 percent children having grade III and grade IV malnutrition respectively. Whereas, Mathur et al (1978) from their analytical study of malnourished children below the age of five years in rural area of Udaipur, reported that 33.33 percent were in grade I, 51.63 percent in grade III and 14.39 percent in grade III of malnutrition.

of western Rajasthan showed Protein Snergy Malnutrition in 32.5 percent of children (Soni, 1980). Similarly, a study from tribal belt of western Rajasthan has also reported very high prevalence of P.S.M. (73.5 percent). Prevalence of severe grade of Malnutrition (grade II and grade IV) has been 16.4 percent (Tomar et al., 1982).

A study conducted by I.C.M.R. in 1977 in different parts of India has shown prevalence of Kwashiorkor in 1.0 percent and marasmus in 2.0 percent of pre-school children. Similarly a base line survey of 27 Project Blocks (I.C.D.L.) has revealed the prevalence of Marasmus in 4.0 percent and Kwashiorkor in 1.7 percent of rural pre-school children. Overall prevalence was found to be 77.0 percent in rural children. 26.1 percent of children were in grade 1, 27.0 percent in grade IX, 12.6 percent in grade IX, and 4.7 percent in grade IV of malnutrition (Tandon et al., 1981).

Gupta et al (1984) while comparing impact of I.C.D.S. scheme in district Raibareilly of Uttar Predesh observed significant difference in the prevalence of severe degree of P.E.M. in the children receiving I.C.D.S. care.

Mased on the reports of Mational Mutrition
Monitoring Mureau, M.I.M. (1982) has reported the following
prevalence of severely malnourished pre-school children
in different states of India.

465	100	-	-
趣	쨊	AND T	
35.		Se displica	(PANOLIS

#### P.E. M. Prevalence

Utter Predesh 6.2 percent

Mest Bengal 11.5 percent

Orisea 22.5 12.5 9.5 percent

Gujrat 12.5 12.5 9.6 percent

Maharashtra	11.3	percent
Andhra Fradesh	7.8	percent
Karnataka	7.7	percent
Tamil Nadu	6.5	percent
Kerala	4.8	percent

#### 2.6.1.1 Protein Energy Malnutrition in Utter Fradesh

The findings of various studies of P.S.M. undertaken in Uttar Pradesh are summarised here.

Authors	Place	Xeex	Fate (N)	Discovers
Siddhu & Szivasteve	Aural Kanpur	1970	5.1	Clinical
Singh Raten et al	Aural	1971	44.2	Comes
Sharma P. et al	Uzben Lucknow	1972	1.3	Clinical
Mathur J.S.	Kenpur	1974	1.9	Clinical
Szivastava et al	Lucknow	1978	40.7	Cones
Deoki Kandan	Res Baroli	1978	66.9	Gomes
Verma, B.L. et al	Jhane1	1980	97.5	Jelliffe
Srivestove, J.1 et al	Y Whands	1980 Boys - Girls -	75.7 78.1	Gomes

The food and nutrition purvey carried out in different parts of U.P. by Food and Mutrition Board, has revealed the overall prevalence of P.S.K. to be 86.7 percent

as a a break mustiful to I it is a record

(Gomes Criteria) of these, 40.3 percent, 35.1 percent and 21.3 percent were having mild, moderate and severe grades of P.E.M. respectively (Sharma, 1981).

#### 2.6.2 VITAY DE DEFICI NCIES

#### 2.6.2.1 Vitamin A Deficiency

The state of the state of

Vitamin deficiencies like infentile beri-beri, pellagra ariboflavinosis, infantile scurvy and rickets are quite frequently reported in India but Vit. A. deficiency is the commonest in pre-school children. The most common age for predominantly nutritional variety, is the third and fourth years of life, atleast in countries where breast feeding is prolonged (Oomen, 1976). The prevalence of Vit. A deficiency has been reported to be about 3.0 - 8.0 percent in poorer section of pre-school Indian children (W.H.O., 1976).

Mathur et al (1974) have observed bitot's spots
in 4.9 percent children aged below 5 years in a rural
community of Kanpur. Also, I.C.M.A. (1977) reported
Bitot's spots in 4.1 percent of pre-school children.
Contrary to this, Chandra et al (1978) observed very high
provalence of Vit. A deficiency in rural pre-school children
of Tamil Nadu. Night blindness was found in 4.03 percent.
Conjunctival merosis in 27.7 percent, Bitot's spots in
6.7 percent, Corneal merosis in 0.6 percent and Phrynoderms
in 1.5 percent children.

A clinical study of pre-school children in rural and urben areas of western Rajasthan showed the prevalence of night blindness in 2.9 percent, Bitot's spots in 2.2 percent, conjunctival xerosis in 1.31 percent and corneal xerosis in 1.29 percent of children (Gupta et al. 1978). But Srivastava et al (1979) reported Vit. A deficiency in 15.95 percent of pre-school children in a rural area around Jhansi. Whereas, Soni et al (1980) observed Vit. A deficiency in 12.4 percent in rural pre-school children of Rajasthan. On the basis of baseline survey in different 1.C.D.b. Project areas, Tandon et al (1981) have reported Bitot's spots in 4.0 percent Keratomalacia in 0.4 to 0.2 percent of rural children below 6 years of age.

The prevalence of conjunctival xerosis as 4.0 percent, Bitot's spots 1.3 percent and follicular Hyperkeratosis 0.4 percent in pro-school children has been reported in Food and Nutrition Survey carried out in Uttar Pradech (Sharas, 1981). On the other hand, Tomer (1982) found Vit. A deficiency in 19.89 percent children aged under 6 years.

It has recently been estimated that amongst the 92 million children aged 1-5 years, 7.4 million have non-corneal and 0.22 million have comment werophthalmia at any one time, \$2500 children become blind and between 110,000 and 13,200 become partially blind in India every year (4.85., 1962).

prevalence of Vit. A deficiency in I.C.D.S. (0.5 percent) and Non-I.C.D.S. (4.2 percent) group of children. Haheshwari et al (1985) reported 21.28% Vit. A deficiency in rural pre-school children of Rajasthan.

#### 2.6.2.2 Vitemin 'B' Deficiency

Chandra et al (1978) have observed angular stomatitis in 34.7 percent of rural pre-school children of Tamil Nadu. But Srivastava et al (1979) from Jhansi reported Vit. B deficiency only in 3.82 percent and Somi et al (1980) found it to be in 4.2 percent of rural pre-school children of Rajasthan.

Sharma (1981) has reported angular stomatitie in 3.6 percent of pre-school children while Towar (1982) found vit. B deficiency only in 0.40 percent of children aged below 6 years and Gupta et al (1984) found no difference in prevalence of angular stomatitie in I.C.D.B. (6.2 per 100) and Non-I.C.D.S. (7.6 per 100) group. Maheshwari et al (1985) reported 2.13 percent Vit. B deficiency in pre-school children.

#### 2.6.2.3 Vitamin 'C' Deficiency

Nathur (1974) observed bleeding Spongy gums in 0.9 percent of pre-school children in rural community of Kunpur, and Srivastave (1979) found Vit. 'C' deficiency in 0.67 percent of rural pre-educal children of Jhansi. Soul et al (1980) have reported that 0.4 percent of rural preschool children of Rajasthan were having Vit. C deficiency while Sharma (1981) from Uttar Pradesh has reported Vit. C deficiency in 0.9 percent of pre-school children.

#### 2.6.2.4 Vitamin 'D' Deficiency

Pigeon chest was observed in 0.9 percent of preschool children of a rural community of Kanpur by Mathur et al (1974), whereas Cupta et al (1978) observed clinical ricket in 3.6 percent pre-school children of Rajasthan.

Srivastava et al (1979) have observed Vit. D

deficiency in 2.02 percent of pre-school children, while

Soni et al (1980) observed a high prevalence (5.9 percent)

of Vit. D deficiency in sural pre-school children. An

alarmingly high prevalence (11.99 percent) of Vit. D

deficiency has been recently reported by Tomar (1982) from

children eged under six years of a tribal belt of western

Rajasthan. Meheshwari et al (1985) have observed Vit. D

deficiency in 8.45 percent of sural pre-school children of

Rajasthan.

#### 2.6.3 marris

the frequency of exacents may be as high as 40.0 percent to the first year of life (W.H.C., 1982). Mathur et al (1974) moted pale conjunctive in 18.5 percent children below 5 years of ege in sural area of Kanpur, while Makhatra et al (1976) from the same area observed the provalence of

ensemie in 18.32 percent of pre-school children; majority (44.0 percent) of anaemic being aged 6 months to 2 years whereas it has been only 7.8 percent in those under six months of age. Anaemia was more prevalent in female than male children. The Haemoglobin level was below 7.0 gram percent in respect of 8.11 percent children, Castro-enteritie or respiratory illnesses were found associated in 64.7 percent of the anaemic children.

It has been estimated that provalence of anaemia in pre-school children and pregnant women is about 50.0 percent (Gopalan, 1977). However, pallor was observed clinically in a very high percentage (69.1) of pre-school children of mural Tamil Nadu (Chandra et al. 1978). On the other hand, Srivastawa (1979) clinically observed anaemia in 4.7 percent pre-school children of a mural community of Jhansi. Contrary to this, Somi et al (1980) reported high incidence (62.0 percent) of anaemia in pre-school children of mural Rajastham. Hajority (69.2 percent) had hasmoglobin between 50 - 70 percent of the expected values, 9.3 percent were found severely anaemic.

rendon st el (1981) from the different project
(ICDS) eress of the country have reported pellor in 22.0
percent of rural and 27.0 percent tribel children aged
below six years. However, Miss (1981) observed manuals
in 24.2 percent pre-school children in the families bering
loss than 3 children and in 31.6 percent children of the
families having more than 3 children.

Tomax et al (1982) from Manipur have commented that the prevalence of anaemia depends on the availability of medical facilities. They observed the prevalence of anaemia in 17.8 percent rural pre-school children who were not having sub-centre facilities, while it was only 12.3 percent in those for whom the sub-centre facilities existed. Gupta et al (1984) was observed higher prevalence (27.3 per 1900) of anaemia in Non-1.C.D.S. as compared to 1.C.D.S (13.2) group of children. Maheshwari et al (1985) reported overall incidence of anaemia in the surveyed children was 53.25% and incidence of anaemia was 44 percent in the age group of 3 - 6 years.

#### 2.7 MORBIDITY

In developing countries, the protein energy deficiency disease, kwashiorkor and marasmus are commonly precipitated by Acute diarrhocal diseases, messles, whooping cough and other infections end high mortality in these children is attributable to the interaction of malnutrition and infection (N.N.O., 1976).

Hamy investigators from India have reported

Gastro-intestinal and respiratory infections as major

causes of sorbidity in pre-school shildren (Ghai et al. 1970s

Gulati, 1974; Mata, 1975; Debta et al. 1975). A cross

sectional study carried out by Chandra (1978) in pre-school

children of rural toull hada towarded 50.0 percent having

current or recent apisodes of distributal discretes.

respiratory illnesses, worm infestations and superative otitis media. Diarrhoea, U.R.T.I., L.R.T.I., C.S.O.M., were found in 50.7, 58.1, 17.8 and 13.1 percent children respectively. 32.0 percent suffered from active skin infections, heart diseases and G.N.S. disorders were noted in 1.07 and 0.23 percent children respectively.

Gupta et al (1980) from a longitudinal study in a rural area of Funjab reported that on an average a preschool child was sick roughly for 2 months in a year, and respiratory and gastro-intestinal disorders constituted 45.37 percent of the total sickness. Agarwal et al (1980) studied the morbidity pattern of rural under five children of Varanasi by fortnightly visits over one year. Sickness per child was 6.69 suggesting recurrent episodes. The common problems were gastro-intestinal diseases (33.5 percent) respiratory tract infections (19.3 percent), skin disease (13.6 percent) and fevers (13.2 percent). The commonest easily preventable illness at an early stage, were mild diarrhoea and upper respiratory tract infections. Diseases of eye and ears were found to be in 7.85 and 2.74 percent children respectively.

have reported that about 9.0 percent of rural and 7.0
percent of tribul children vers sick at the time of survey.
Upper respiratory tract infertions (1.0 - 1.5 percent) and
acute distribute (0.0 percent) were the two major significant

There is significant evidence to the relation of Family size and sicknesses in children. When (1981) observed high incidence of respiratory infection (39.7 percent), gastro-enteritis (40.9 percent) and skin infection (22.7 percent) in pre-school children belonging to families with 3 or less than children as compared to 67.9 percent, 62.0 percent and 50.5 percent respectively in children belonging to families with more than 3 children. However, respiratory infection, gastro-enteritis and skin infections were the major causes of morbidity in both the groups.

Gupta et al (1984) reported in his study that upper respiratory infections and diarrhoea & dysentery were major causes of sickness in both I.C.D.S. and Non-I.C.D.S. groups.

Naheshwari et al (1985) observed that malnourished children suffered more with variety of illnesses in the past as well as the time of study. Sickness per sick child in normally nourished children was 1.42, which increased to 2.41 in severely malnourished children. There was a significant correlation between malnotrition and infection in the past and present morbidity.

Intertinal word infertation is mother major
health problem in young children. Its relation with
mainstration has been worked out by many invertigators
(Tripathy et al. 1977; Lenne et al. 1977; Cupta et al. 1976;
Gupta- 1980) - Charma (1960) has found 51-9 percent of stool
camples positive for ore of eye. Helocity (75-0 percent) of

Ankylostoma, Teenia solium, & histolytica were found in 19.6, 1.8 and 3.6 percent of the samples respectively. In 8.9 percent of cases, it was mixed infection. However, Halhotra et al (1976) from Kanpur observed the overall infestation rate of 23.5 percent in rural pre-school children. Gupta (1977) has also reported ascaris as the commonest parasite in pre-school children.

Chandra (1978) reported worm infestation rate to be 21.8 percent in pre-school children of rural Tamil Nedu. Whereas a study carried out in Dalmen Block of Utter Pradesh (Deoki Handen et al, 1980) revealed the presence of one or other form of intestinal parasite in 34.1 percent of the stool samples collected from the children below 6 years of age. The most common parasite encountered was ascaris (38.6 percent) followed by hook worm (33.6 percent). Similarly, Brar et al (1980) from Patiala reported 31.9 percent stool samples positive for one or the other infestation. Ascaris was most frequent (17.02) among all the sample collected.

Age Res (1980) from Karnsteks found positive history
of passing worm in 27.11 percent of malnowrished and 10.60
percent of the normal children. A study by Khen et al (1980)
from urban Aligarh here revealed prevalence of worm infactation
in 17.7 percent pre-school children belonging to small.
femilies as compared to 25.0 percent in children belonging

Gupta et al (1984) reported 33.1 percent in Non-L.C.D.S. group and 17.2 percent in L.C.D.S. group stool samples positive for one or the other parasites.

Ascaris was found to be most common parasite in both groups.

Maheshwari et al (1985) observed 24.84 percent of the children suffered from intestinal parasites, and infestation per infested child was 1.16. Ascariasis topped the list (31.7 percent) of the infected children. Incidence of parasitosis was 4 times higher in severely malnourished children as compared to normally nourished.

#### 2.8 <u>IMMUNISATION</u>

Inspite of the implementation of immunisation programme in India for nearly three decades, the coverage of population is poor especially of D.P.T. and Polio vaccination. Numar et al (1972) reported that only 60.0 percent pre-school children were protected for smallpox in a rural area, while Philip et al (1976) found the coverage of smallpox in 58.0 percent of rural pre-school children and the coverage of B.C.G., D.P.T. and Polio immunisation was observed in 13.5 percent each.

and urban areas of James has revealed 70.0 percent children below 5 years were veccinated equinat smallpox while revectantion was done only in 10.0 percent. 50.0 percent children was given B.C.C. and D.P.T. while oral Polic was

given only to 18.0 percent children. Contrary to this, namesh et al (1978) from Agra have reported very poor immunisation coverage in infants of rural as well as urban areas. Only 1.2 percent rural and 6.1 percent of urban infants were given B.C.G. vaccination. The D.P.T. coverage was only in 1.3 percent of rural infants and 1.5 percent had received protection against polio.

Chandra et al (1978) from rural Tamil Nadu
reported 93.0 percent coverage against smallpan, 4.8 percent
against tuberculosis and 0.35 percent against polic.

D.F.T. was given in 17.2 percent children. However,
Gupta (1978) reported coverage of smallpox vaccination in
96.4 percent B.C.G. in 62.1 percent and D.P.T. and polic
in 28.9 percent pre-school children of a maral area, the
coverage of B.C.G. in 50.8 percent and D.P.T. in 29.6
percent of rural pre-school children.

have also reported poor immunisation as B.C.G. was 17.0 percent in rural and 23.0 percent in tribal areas. D.P.T. was given to 7.0 percent of rural and 5.0 percent of tribal children. A study from rural Aurangabad has revealed 83.7 percent coverage for smallpox, 23.01 percent for B.C.G..
7.51 percent for D.P.T. and 3.78 percent for oral police (Deptal, 1981).

to be 63.0 percent. Complete D.P.T. Veccination was given

to 8.6 percent, while eral polio and B.C.G. was given to only 0.4 and 0.4 percent children respectively. Oupta et al (1984) reported higher coverage of all types of vaccination vis. B.C.O., D.P.T., Polis & D.T. in 1.C.D.S. Group as compared to Non-I.C.D.S. group. Dattal et al and Sahu et al observed relatively low coverage of B.C.G. (25.0 percent and 12.8 percent respectively). The difference in coverage of B.C.G. in these study could be because of place variation and time of study which was in 1979 and 1982 respectively. Josesh et al found 8.8 percent and 12 percent coverage for lat dose of D.P.V. and D.P.T. in pre-school children. However, a study in Rajasthan, carried out in 1981-82, showed a poor coverage of 0.P.V. & D.P.T. (5.9 percent and 4.5 percent respectively) in the 1 - 2 years of age group. Coverage for measles was found 23.7% by D.P. Mohil.

#### 2.9 PERDING PRACTICS AND CHILD HEALTH

w.M.O (1973) has recommended that the breast feeding should be continued, if possible, upto the age of 12 months or longer in some circumstances to provide a valuable nutritional supplement. Food supplimentary to breast milk will need to be introduced by 4-6 months of age. There has been remarkable progress in the technology of making infant food. Nevertheless, scientific swidence is confirming the superiority of breast feeding because of its support of the bonding of mother and onlid, and the psychological support

of the child, the nutritional and physiological properties of human milk, its immunological properties and other health benefits extending into adult life and its advantages for the mother (UNICEF, 1981).

morbidity has also been established by a number of studies (James, 1972; Chandra, 1979; Cunnighan, 1979). Recently Kumar et al (1981) reported that diarrhoes, U.R.T.I. and allergies were less common amongst breast fed infants and more so during first month of life. Idris et al (1981) from Lucknow have also reported less incidence of diarrhoes in breast fed in comparison to artificially fed infants.

Breast feeding though favoured in India, differences exist in practices related to its commencement and duration (Gupta, 1979). This has been further confirmed by Mirmal et al (1981) from Devengere and Idxis et al (1981) from Lucknew and Gupta et al (1984) from Lucknew.

#### 2.9.1 Pirst Breast Food

parts of India and found that except for Hyderabad and Coimbatore, where majority of the mothers fed colestrum to infants, breast feeding in most of the parts of country was generally delayed until 3 - 4 days after birth due to widely provident belief that lactation is not established till them. Agarwal et al (1981) from Varanasi also had similar findings.

#### 2.9.2 Period of Exclusive Breast Feeding

Prolonged breast feeding without supplementation has been a very common practice in India specially in rural areas. Recently, a study conducted in urban and rural area of Lucknow by Idris et al (1981) showed that even after the age of six months, 42.1 percent rural infants were exclusively dependent on breast feeding. Moreover, even after the age of one year, 20.6 percent rural infants were exclusively breast feed. Indra Bai et al (1981) have also reported that in rural areas 38.4 percent infants were exclusively breast feed upto 6 - 9 months of age.

#### 2.9.3 Total Duration of Breast Feeding

breast feeding in rural areas. Sharms at al (1977)
observed that 47.7 percent of rural children continued the
breast feeding even beyond 2 years of age while Shal (1979)
from Himschal Pradesh reported that majority (58.0 percent)
of children were breast fed even upto 36 months of age.
It was also observed that 30.0 percent of mothers continued
to give breast milk to their children even beyond 3 years of
age. Recently, Katiyar et al (1981) and Ajai et al (1982)
have also observed prolonged total duration of breast feeding
in rural area.

#### 2.9.4 Message 2.9.4 Message The second of th

pelayed weaming is very commonly observed in rural area. Sharma (1977) reported that only 22.6 percent of rural

children had received solids below 9 months of age. Also, Bakshi (1977) in Bhopal found that maximum number (62.8 percent) of rural pre-school children were weened between the age of 1.5 to 2.5 years. Moreover, 2.8 percent children were still absolutely breast fed even after three years of age.

Bahl (1980) from Mimachal Pradesh has also concluded that in majority (92.0 percent), semi-solid was introduced at the age of 13-24 months and only in 30.0 percent children semi-solids were introduced after 9 months of age. Katiyar et al (1981), observed delayed weaning in rural group of children. Weaning was introduced only in 33.63 percent of rural children upto the age of 6 months. Nost of the rural children (27.08 percent) were weened at the age of 13 - 18 months and 7.14 percent children were weened after the age of 2 years. Similarly, a study from Chandigarh has reported delayed administration of semi-solids i.e. beyond 6 months of age in 93.6 percent rural infants. Heen age of starting semi-solid food was 8.3 months (Kumar et al. 1981) and Quota et al (1984) observed mean age at weaming in L.C.D.S. group was 11.2 months while in Non-I.C.D.S. it was 15.4 months.

### 2.10 MORTALINE

according to estimates of Government of India, about one fifth of total deaths in population occur in the first year of life, while enother one fifth of dies in the age

group of 1-4 years (School Health Committee, 1962), Sharma et al (1978) have also reported that out of the total deaths occuring in India, 30.6 percent occur during infancy and 14.6 percent in the age group of 1-6 years.

Gulati (1967), carried out a survey in children under 5 years of age in semi urban area of Delhi and found overall mortality to be 66/1000 per year. Out of these, 76.0 percent died in the first three years of life. However, in 1981, 25-46/1000 mortality has been observed in pre-school children by the Ministry of Health and Family Welfere.

The leading causes of child deaths, in developing countries are, distributed, respiratory infections, followed by communicable diseases and prematurity (W.H.O. 1976).

Similarly, Gulati (1967) found distributed, measles, pnemonia and prematurity as four leading causes of deaths in pre-school children. While Shatty (1981) observed respiratory infections, gastro-enteritis and accidents as leading causes of deaths in early childhood (1-5 years).

Studies, carried out in India by Chandra Shekhar (1972), Srivestava et al (1976) and Ghose (1976); had reported infection, mainutrition, prematurity and birth injury as the leading causes of infant mortality. While Reddain and Nath (1978) observed prematurity (27.7 percent), respiratory infection (21.3 percent), Diarrhoeal diseases.

Village Ladician 1881 partir 1884 for the

(12.1 percent), halnutrition (13.4 percent) and tetanus neonatorum (12.8 percent) as major causes of infant mortality. However, Gupta at al (1981) from rural Rajasthan reported infection (Pneumonia, Diarrhoea etc.) and malnutrition as major killer of infancy i.e. 58.8 percent and 19.3 percent respectively. Sufficiently large proportion of infants died due to prematurity (12.9 percent) and matal (9.6 percent) causes. He observed infant mortality to be 124/1000 live births. In a study from rural Lucknow the infant mortality has been assessed to be 117.6 per thousand live births (Shukla, 1981). The leading causes have been tetanus meonatorum (30.5 percent), diarrhoea (18.0 percent) and pneumonia (16.6 percent). Gupta et al (1984) from rural Uttar Pradesh reported major causes of infent mortality in I.C.D.S. area were prematurity and respiratory infections (33.33 percent each), while in Non-I.C.D.S. grea, single major cause was tetanus neonatorum (37.5 percent) and major killers in 1-5 years age in 1.C.D.&. area were respiratory infections and marasmus (40 percent) each) while in Non-I.C.D.S. area these were distripes and marasmus (37.5 percent each).

Tandon et al (1984) reported in his study 'impact
of I.C.D.S. survey on infent mortality rate in India' that
the I.M.M. (per 1989) was significantly lower (86) for the
1982-83 I.C.D.S. samples survey then for the country as a
whole as provided by the sample registration system (1.14).
Since I.C.D.S. projects are located in socio-economically

backward villages the I.M.R. would be expected to be higher than the national average in those areas. Indeed a 1978 survey had shown the I.M.R. in backward communities to be 159 (rural) and 90 (urban) compared with national estimates of 136 and 70 respectively.

The level of I.M.R. in 1.C.D.S. projects was obvious in rural and tribal population. The I.M.R. for the rural and tribal population as calculated by sample registration survey data is 124 compared with 69.5 for I.C.D.S. project.

Tragler (1984) reported in his study 'The role of health worker in an integrated child health programmes in slume' that death rate was reduced from 10 to 7.6/1000 population. Infant mortality was reduced from 132 to 31/1000 live births after three years of programme.

Sunder Lal (1985) reported in his study 'Early childhood mortality in I.C.D.S. Blocks of Nazyana', the infant mortality rate of 107 per thousand, 1 to 3 years mortality rate of 16.26 per thousand, 3 to 6 years mortality rate of 8.08 per thousand.

# 2.11 INTEGRATED CRILD DEVELOPMENT DERVICES SCHEME AND CRILD HEALTH

Since the implementation of I.C.D.S. scheme in 1975, various studies have been undertaken to evaluate the impact of these integrated services on the health and nutritional status of children, and have made varying conclusions.

#### 2.11.1 Impact on Protein Emergy Helmutrition

Sunder Lai (1980) carried out a study in a block of Haryana and analysed the impact of i.C.D.S. on health status of children on the basis of base line survey of 1975 and repeat survey of 1979. Improvement in grade III and IV P.E.M. was observed from 12.09 and 6.10 percent to 5.90 percent and 2.60 percent respectively. Also, in a study (Tandon et al. 1981) of 5 rural, 7 tribel and 3 urban projects, improvement was observed in severe grades of P.E.M. Initially, nearly 20.0 percent of pre-school children from all areas were suffering from severe grade of P.E.M. but due to I.C.D.S. services, the prevelence came down to 11.2 percent in rural areas and also there was improvement in other areas. Patel (1982) in her evaluation of I.C.D.S. on pre-school children of urban slumm of Bombay noted a tremendous positive effect. A sharp decline in the prevalence of severe grades of malnutrition was observed. Within a period of 3 years, the prevalence was brought down from 15.7 to 4.6 percent.

Contrary to this, Patowary (1982), while evaluating the I.C.D.S. project in Assan could not establish a significant change in the State of Severa grades of

CONTROL OF THE ACCOUNT OF THE PARTY OF THE P

mainutrition. However, the percentage of children in normal group which was 44.68 in base line survey of 1979 rose to 54.73 percent in 1980. Grade I malnutrition declined from 36.58 percent to 31.98 percent and grade II from 16.90 to 11.01 percent. Also, Shandari et al (1981) did not find any significant improvement in the grades of P.E.M. during the period of one year i.e. from 1978 to 1979.

Domicillary monitoring and management of 170 severaly malnourished children in 12 Augenwedi centres showed improvement in 62.35 percent of children during the period of one year (Bhandari et al, 1981). Similarly, Sunder Lal (1982) noticed quite encouraging results as out of 270 severely malnourished children, 58.15 percent improved and 34.45 percent maintained with favourable trends of weight gain.

of P.E.M. was higher in Mon-I.C.D.S. (77.1 per 100) as compared to I.C.D.S. (44.2 per 100) group. Sunder Lai (1983) observed in his study 'Integrated development and growth performance of under sixes in I.C.D.S. project Eathura (Maryana)' that the birth weight were adequate, indicating probably better nutritional status of the mothers. The deficit weight or weight lag started at 6 months of age, which coincides with the opent of weening. Weight for age of cohort of 969 children born in the year 1977, when the compared with reference standard revealed that 504 (60.27 percent) children were below "out off point" (80.0 percent)

of 50th percentile Harvard Standard). The overall performance of growth was nearly satisfactory in only 39.73 percent of children below one year of age. Severe growth lag was observed in 27.66 percent of infants. This lag or drop was observed at 6 months of age, which coincided with the weaning period.

#### 2.11.2 Impact on Immunisation status

Immunisation coverage, which is one of the important component of this scheme has also been observed. bunder Lel (1980) reported an increase in the coverage of B.C.U. and D.P.T. from 18.20 and 6.70 percent to 48.30 and 69.90 percent respectively during the period of three years. Polio Vaccination which was not given even to a single child in 1976, was found to have been taken by 44.0 percent in 1979. Tandon et al (1981) also noticed remarkable improvement in the immunisation status. S.C.G. coverage showed maximum improvement from 11.3 to 49.2 percent, 20.9 to 55.4 percent and 47.4 to 74.1 percent in rural, tribal and urban projects respectively. Administration of all the three doses of D.P.T. also went up from 6.3 to 17.6 percent in rural, 10.0 to 19.6 percent in tribal and 15.1 to 51.0 percent in urben project areas. Similar results were observed by Petel (1982) in a slum area of Bombay, as the smallpox and B.C.G. coverage increased from 67.4 to 97.7 percent and from 37.5 to 84.4 percent respectively during the period of 3 years. Polic and Triple vaccination also An Alta Ancidence at a Section attack in the STREET TANK THEF

improved to a considerable extent i.e. from 18.1 percent to 74.2 percent in both types of vaccination.

Bhandari et al (1981) however, did not find much improvement in the immunisation status of pre-school children of Garhi (Rajasthan) during the period of one year. D.F.T. vaccination which was done in 44.29 percent of cases increased to 52.4 percent only. In respect of B.C.G. at the time of base line survey only 25.23 percent were found vaccinated, while at the repeat survey only 2.57 percent children were observed further immunised. However, there was much improvement in smallpox vaccination which increased from 76.6 to 89.2 percent. Gupta et al (1984) found higher coverage of all types of vaccination in I.C.D.S. group as compared to Non-I.C.D.S. group. Coverage for B.C.G. was 14.0 percent in I.C.D.S. and only 2.3 percent in Mon.I.C.D.S. group. D.P.T. vaccine was given to 47.3 percent children in I.C.D.B. and only 4.8 percent in Non-I.C.D.S. group. 54.3 percent in I.C.D.S. and only 0.3 percent in Non-I.C.D.S. group received oral polic veccine.

#### 2.11.3 Impact on Forbidity

pattern of verious filesease including nutritional deficiencies in different i-C.D.S. enganwed areas but the impact of i.C.D.S. on morbidity has been escensed only by ion morbide. Patal (1982) has imported definite decline in the inclines of illnesses from 1977 to 1980. Decline in yet, a deficiency, rickets, engular stomatics was found

from 4.4, 1.1 and 1.7 percent to 0.7, 0.4 and 0.2 percent respectively. The prevalence of anaemia declined from 15.0 percent to 1.7 percent and similar declining trends were observed in respect of diarrheea, worm infestation, pyoderma and otorrhia.

Vasudeva et al (1982) have only studied the prevalence of sickness in children below three years of age and found diarrhoes, eye infection, worm infestation, ear infection, U.R.T.I., skin infections, fever, tubercular lymphademitis as principal causes of morbidity. 64.0 percent were found to be ill at the time of survey. Also Saxona (1982) found 21.8 percent children to be suffering from various Vitemin deficiencies, of which 53.4 percent and 37.9 percent were having Vitamin A and D deficiencies respectively. B-Complex deficiency was seen only in 1.89 percent of the total children. Gupta et al (1984) reported prevalence of sickness in higher percentage of children in Non-I.C.D.S. (40.6 percent) as compared to the I.C.D.S. (32.7 percent) group at the time of study. Average sickness per sick child being 1.4 and 1.3 respectively. Upper respiratory tract infections, distribute & dysentery, skin infections and utitis media have been the major causes of sickness in both the groups of children. Significantly higher prevalence of distribute & dysentery and skin infections (15.4 & 10.9 per 100 respectively) has been found in Non-I.C.D.S. as compared to the I.C.D.S. group (10.2 & 4.5 per 100 respectively).

#### 2.11.4 Impact on Maternal and Unild Health Dervices

Sunder Lal (1980) observed increase in the frequency of health check up of children below 6 years of age from 28.2 percent to 92.0 percent during the period of 3 years (1976-1979). Similarly utilisation of supplementary and therapeutic nutrition increased from 8.0 percent and 0.0 to 50.0 percent and 97.0 percent respectively. Distribution of Iron and Folic Acid tablets had also increased to 58.8 percent from 2.3 percent. Increase in the coverage of tetanus toxoid was also noticed from 1.0 percent to 30.8 percent.

Gupta et al (1981) reported that 31.54 percent of rural sick children were utilising remedial services of Angenvadia. In another 1.C.D.S. evaluation study, Tendon (1981) have reported increased coverage of rural pro-school children for supplementary nutrition from 18.7 percent to 57.3 percent during the period of 20-21 months. Similarly. 43.6 percent rural children had received Vit. A supplementation through I.C.D.S. as compared to only 6.0 percent at the base-line survey. Positive changes were noted in entenstal check-up of pregnant women. The base-line study registered a coverage of 11.8 percent for rural area whereas the follow-up study showed a rise to 53.5 percent. The immunication of pregnant women with 2 doses of tetanus toxaid rose from 2.1 to 33.4 percent in rural projects. Improvements were also noted in the distribution of iron and folic seid (14.1 to 41.1 percent) and supplementary

nutrition (35.2 to 41.3 percent) to pregnant women.

Postnatal services and distribution of nutritional

supplement showed an improvement from 8.3 and 7.2 percent

to 49.2 and 26.3 percent respectively in the rural projects.

Gupta et al (1984) in his study reported a higher percentage

of children in I.C.D.S. (74.3) as compared to Non-I.C.D.S.

(51.3) group have been utilizing government agencies for

medical care and mothers of significantly more (61.3 percent)

children in I.C.D.S. as compared to only 19.9 percent in

Non-I.C.D.S. group swalled antenatal care. Mome deliveries

have been common feature in both groups. Coverage for all

types of supplementary nutrition - vit. A. Iron & Folic acid

and supplementary food, was more in I.C.D.S. as compared to

## 4.12 INTEGRATED CHILD DEVELOPMENT BENVICED SCHEME AND PARILY PLANNING

In the initial phase of I.C.D.S. scheme there was no significant emphasis given, direct or indirect, to the family welfare services. It is well-understood and accepted that the health of development of child is very closely related to the birth rate, specing between the deliveries and the total number of children in a family. No child development programm can be implemented meaningfully without introducing family welfare services through its forum. Although the Ministry/Department of Health and Family Welfare principly and administratively is prepossible

for the family welfare programme, Amganwadi is good focal point in a village from where this programme could be successfully implemented. Angenwedi worker develops and continues to develop a close relationship with all the participants. She can therefore utilize her position to emphasize upon the importance of family planning as well as health of children. She can create interest in the minds of the ladies to know more about family welfare services, develop right attitude towards family size and practice appropriate family planning methods. Once the Angenwadi worker has changed the knowledge and attitudes favourably. she can bring the beneficiaries into direct contact with family welfare workers who could then take advantage of this motivation and introduce appropriate measures for family planning. Though pivotal position of Anganwedi worker is important, it must be kept in mind that she is a young girl of the same village and as per rural cultures she cannot be frank and outsooken on the subject with more grown up women of the same village. The message from Angenwadi worker must be more indirect than direct, particularly refering to importance of healthy child, relevance of spacing between the two pregnancies and impact of the family size on the development of the child.

Vacuation of al (1903) observed in their study
'Integrated child development devices - impact on fortility
regulation's eignizions increase in family planning
acceptance was noticed after five years of implementation

Talkad as against pre I.C.D.L. scheme levels. Further, the increase in the acceptance of family planning methods especially sterilisation in the I.C.D.L. areas was highly significant when compared to that of the control PMCs at Hoskote and S.R. Hundi in the same district Mysore for the same study period.

The study therefore indicates the importance of the I.C.D.S. scheme as a model of health care delivery and the role of its peripheral agent, the Angenvadi workers, as a "change agent" in the utilisation of health care services by the community. It is proposed to study this hypothesis in greater detail by comparing the acceptance of fertility regulation among eligible couples in Angenwadi areas with those in non-Angenwadi areas, as also by comparing family planning acceptance among parents of I.C.D.S. beneficiaries in some villages of the I.C.D.S. project.

Sriniveses (1933) observed in his study 'India's family planning programms: its impact and implications' the programms has made a significant impact on the fertility levels of the population especially since 1966. The crude birth rate was declined only by about 9 points in about 16 years from about 41 per 1000 population in 1966 to 32 per 1000 population in 1962. It has to be realised that the Indian programme is a voluntary programme implemented in a democratic frame-work with freedom of choice on the number of children that a couple would like to have.

There appear to be a wide variation among the states in the efficiency with which the programme is operated and the effectiveness of the programme. The states such as Kerala, Maharashtra, Tamil Nadu and Orissa appear to have been more successful in implementing the programme. The success seems to be related to organizational efficiency and the quality of various services provided including maternal and child health care rather than to differences in the desired family size among the states. There appears to be a strong linkage between the success of programmes to reduce infant and child mortality levels and acceptance of family planning methods. In the recent years there appears to be a shift towards increased acceptance of female methods particularly laparoscopy, Copper-T and oral pills and this reflects the growing demand from women for controlling their family sime.

It appears that the states which are backward in the programme in India can gain considerably from the emperiences from those which have been more successful, by visits by officials, study tours and exchange of officials on short term basis.

Shettecharjee (1984) reported in his study 'The family planning programme, advention and development' in Kernataka, the crude birth rate of Karnataka has been estimated to have declined from 39.0 to 34.8 during the last decade. This decline in birth rate can mainly be attributed to the performance of family planning programme

over time and increases in the level of education have often been cited as one of the most significant factors influencing fertility reduction.

Chaurasia (1985) reported in his study 'Organizational aspects of family welfare programme in India' that the trends in the organizational efficiency of the programme has had many ups and downs. This is mainly because the policy of polarisation adopted in our family planning programme, drifting from one solution to another, as such offered an insufficient remedy. Very little attention has so far been paid to such aspects as mass education, research and training.

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#### CHAPTER III

#### 3. MATERIAL AND METHODS

This is a comparative study of evaluation of I.C.D.S. (Integrated Child Development Services) Scheme in two Community Development Slocks - one covered by Integrated Child Development Services Scheme and the other not covered by it.

#### 3.1 AREA OF STUDY

Thenei in Utter Predesh, where Integrated Child Development Services (I.C.D.S.) Scheme was started in 1980-81 was selected as the I.C.D.S. block in this study. This block is also the Field Practice Area of the Department of Social and Preventive Medicine, M.L.B. Medical College, Jhansi (U.P.). The Chirpson block has got a typical rural setting, representing truely the rural population of Bundalkhand in terms of their culture, beliefs, customs and medical facilities etc.

Chirgaon is a birth place of famous national post Late Sri Mathilisharan Supta and this block is at a distance of 10 Kms. from Parichha Thermal Power Project. It is situated at a distance of 30 Kms. towards east of Jhansi. The geographical area of Community Development slock Chirgaon is \$5255 hectars constituting mainly of padua soil which is suitable for wheat. The average yearly rainfall in the area is about 70 cms.

There are 102 villages in this block. According to 1981 census, the total population is 108561. The density of population is 1.96 / hectar.

There are 94 primary, 27 junior and 4 high schools besides one Intermediate College, in this area. The literacy rate is around 29 percent. Agriculture is the main occupation and 75 percent of the total geographical area is under cultivation.

Regarding the health infra-structure, there is three Ayurvedic hospitals and four State dispensaries (allopathic) apart from one Primary Health Contro at Chirgada. There are three Hedical Officers posted at the Contro.

Community Development Slock Sereces is situated as a distance of 15 kms, east of Shapel district. The geographical gree of Community Development Slock Saragace is about \$2000 hereas constituting mainly packs 5011

which is suitable for wheat & pea. The average yearly rainfall in this area is also about 70 cms.

There are 121 villages in this block. According to 1931 census the total population is 103373. The population density is 2.42 / hoctare. The main occupation in this area is agriculture and about 30 percent of total geographical area is under cultivation.

At Baragaon there is three Ayurvedic hospitals and four state dispensaries (allogathic) apart from one Primary Health Centre.

There are 72 primary, 17 junior and 6 high schools and one intermediate College in this area. The literacy rate is around 36 percent.

#### 3.2 STUDY DESIGN

#### 3.2.1 Unit of Study

All the children below the age of alm years in all the households of the selected villages constituted the unit of study.

#### 3.2.2 Sampling Deat & Frame

The second of th

#### 3.2.3 Sample Design

The main objective of this study was to assess the impact of the I.C.D.S. scheme on the nutritional status of children below 6 years. Average reported prevalence of moderate to severe grades of protein energy malnutrition comes to about 30 percent of the children below six years and this was used to determine the size of the sample required in the two areas.

The formula for minimum sample size required is given as

$$n = \frac{4p}{d^2}$$
 where

P - Percent prevalence expected.

Q = 100-P and d is allowable percentage deviation in P Assuming d = 5% (25% of 30%) the required sample size comes to  $n = \frac{4 \times 30 \times 70}{5 \times 5} = 336$ 

It was decided that three villages in each block would be adequate to cover this number of children.

The selection of the Villages in sech black was done by simple render sampling method using table of random numbers (Fisher & Yakos, 1957).

The Villages selected and their rendom numbers are as Sillows.

Chiragon block	Random No.	Baragaon block	Rendom No.
1. Pahari	5	1. Pichhore	1.7
2. Maheba	37	2. Gora Machhiya	43
3. Mirona	62	3. Digara	69

#### 3.2.4 Sample size

The sample consisted of all the children below six years of age in the selected villages. Anganwadi workers maintains the family records of their villages in Chirgaon block. Family records of selected villages were verified and made upto date by making necessary alterations and additions. The records were re-verified at the time of study. There were 506 children below six years in the selected villages of Chirgaon and 499 children in Baragaon block. Out of these, 423 (83.60 percent) children in Chirgaon block and 403 (80.76 percent) in Baragaon block could be studied. Village-wise distribution of the children is given in table 3.1.

Table 3.1. Village-wise distribution of population studied.

<u>Chirgeon Block</u> -

332 Sept. 1997 1997 1998 1998 1998	
	81.40

#### Baragaon Block -

51. No.	Name of Village	Total popu- lation	Total chil- dren below 6 years	Total children studied	Percentage of children studies
1.	Fichhore	820	225	204	90.66
2.	Gora Machiniya	662	118	98	74.26
3.	Digara	1050	156	101	64.74
Total	2532	499	403	80.76	

non-evailability of the children or non-cooperation from the parents despite best efforts of the investigator.

#### 3.3 PERIOD OF STUDY

The Study was Started on November 1, 1987 and continued till April 30, 1988.

#### 3.4 METHODOLOGY

The Study was carried out by door to door visit

to every house in selected villages of L.C.D.C. and

Non-I.C.D.C. area. All the children below the age of all

years ware studied with the bely of a schedule designed

co collect hear independence pertuning to bio-social

characteristics any impanental conditions, antenatal care,

type and place of delivery birth steed ont, feeding practices

even and place of delivery birth steed ont, past and present

counts and development immanises on the children ware

interviewed. If neither of the parents was available, some other adult member of the family was interviewed and a re-visit made to verify the facts. The informations were recorded on an interview schedule which had earlier been tested on a similar population.

#### 3.4.1 Determination of age

Actual age of the child was recorded in years and months. Since the study population was only upto 6 years, there was not much difficulty in determination of age in years. Determination of age to measure month posed some problems. Stated age was verified indirectly by asking about the month of birth according to the local calender, proximity to some festival or important event or horoscopes, if available. Relative ages of the mother and other children were also taken into account during verification of age.

#### 3.4.2 Anthropometric measurement

#### 3.4.2.1 Heasurement of weight -

ased for recording the weight of children. Its accuracy
was checked only with standard weights through inferior
to bean type scale. This mechane was used because of

(a) It is easy to carry in the field and (b) for unliferably
of theorysisms when children had to be weighed with their

children were weighed to the nearest 0.1 kg with only light or no garments. Weighing of smaller or sick children was a difficult task. They were weighed along with their mothers and then the mother's weight was deducted to know the weight of the child. The children were weighed preferably before meals and saked to empty their bladders before weighing.

#### 3.4.2.2 Measurement of Height -

asked to stand with bare feet on a flat floor against a wall with feet parallel and with heals, buttocks, shoulders and back of the head touching the wall. The head was held comfortably except and a mark made on the wall with the help of a scale, touching the top of the head horisontally with its vertical edge flat against the wall. Height was then measured by using a good steel measuring tape to the nearest 0.5 cm.

The shall as a wooden bourd which were measured by laying the shall on a flat work which were shall shall be a flat work who have been shall shall be a flat were shall shall be a flat work which were shall shall be a flat work which were shall shall be a flat which shall shal

### 3.4.3 Clinical examination

child was subjected to a complete general and systemic examination. The objective was to discover any illness or any sign of malnutrition as enumerated by w.M.J. (1976).

### 3.4.4 Laboratory Investigations

Blood samples were collected for haemoglobin ostimation which was carried out on the spot by Sahli's acid haematin method.

of ove and cysts of parasites in the faces. For collection of stool samples serially numbered small boxes were distributed to the parents after clinical examination and sample collected next morning. Examination of faces was done by preparing fresh saline and iodine smears and viewing them under the high power of a microscope.

# 3.4.5 Compilation, Tabulation and Interpretation of Collected Data

### 3.5 LIMITATION OF STUDY

This study had been carried out in partial fulfilment of the requirements of M.D. (Social and Preventive Medicine) Examination and therefore suffers from limitations of time and resources. Many of the information sought are based on the capacity to recall, the limitations of which do not need any emphasis.

The reluctance on the part of parents in giving the blood and stool samples of the children proved a great difficulty in the course of study. Inspite of the best efforts made, such samples of all children could not be obtained.

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OBBBVATIONS

### CHAPTER IV

### OBSERVATIONS.

and 403 of Non-1.C.D.S. Block (Baragaon) of district Jhansi, aged under 6 years, have been examined and investigated to evaluate the impact of I.C.D.S. scheme. Information collected and observations made in the course of study are presented herewith.

# 4.1 ACE AND SEX DISTRIBUTION

Table 4.1 : Distribution of Children by their age and Ben.

	I.C.D.S. GROUP							NOR-1.C.D.B. GROVE					
Ng e	And the state of t				Total		14	Nale 1		ale	To	tal	
	No.	×	No.	*			No.	34	No.	%	NO.	*	
2 3 months	14	3.3	10	2.4	24	5.7	•	2.2	6	1.5	15	3.7	
3 - 5 months	11	2.6	12	2.8	23	5,4	11	2.7	13	3.2	24	5.9	
6 - 8 nonths	9	2.1	13	3,1	22	5.2	15	3.7	13	3.2	23	6.9	
9 - 11 months	3	0.7		0.7	. 6	1.4	15	3.7	7	1.8	22	5.5	
l year +	40	9.5	26	6.1	66	15.6	20	5.0	25	6.2	45	11.2	
2 years+	41	9.7		6.0	75	17.7	40	9.9	24	6.0	64	15.9	
3 years+		9.7	1 1 1 1 1	8.8	78	18.4	47	11.7	38	9.4	85	21.1	
4 years+	38	8.9		8.3	75	17.7	30	7.4	29	7.2	59	14.4	
5 years+	8	0.0	25		•	12.0	20	7.0	33	9.2	61	15.	
	226				423	100.0	215	53.3	100	46.7	403	100.0	

of the total children studied, lowest proportion in i.C.D.b. group (1.4 percent) were in age group 9-11 months and in age group  $\angle$  3 months in Non-I.C.D.b. group (3.7 percent). The variation according to the age of children in the I.C.D.b. and Non-I.C.D.b. group has not been statistically significant ( $x^2 = 9.66$ , d.f. = 3, p = 7 0.05).

In I.C.D.S. group, 53.4 percent children were male and 46.6 percent female, and 53.3 percent male and 46.7 percent female in the Non-I.C.D.S. group. But the difference was statistically insignificant (x2 = 0.0008, d.f. = 1, p 7 0.5).

# 4.2 PANILY BACKGROUND OF STUDIED CHILDREN

# 4.2.1 Religion & Costs

Table 4.2 : Distribution of children according to religion

eligion and Caste	1.6.0.8 No.		80.		
Indu		95.0	401		99.5
	<b>50</b>		11.8	105	26
- Higher caste		The second second	43.7	171	42
- Backward cast			39.5	125	31
- Schedule cast					
uslda		<b>6.0</b>	=301		
the state of the s		COMPANY OF THE PARTY OF THE PAR	Section of a section in the section of the section in the section		<b>《日本教育》</b>

both the study areas. Majority of children in 1.C.b.b. (95.0 percent) as well as in Non-1.C.b.b. group (99.5 percent) were belonging to Hindu religion. However, the variations in the religious composition of I.C.b.b. and Non-1.C.b.b. groups has been statistically insignificant ( $x^2 = 1.95$ , d.f. = 1, p. 7 0.05).

Nearly three-fourth (83.2 percent) of the total children in I.C.D.S. as well as Non-I.C.D.S. groups (73.4 percent) were from the backward and schedule castes.

# 4.2.2 Nature of femily

Table 4.3 : Distribution of children according to nature of family.

	i.c.D.	e Oroug	Non-L-C-P	
Pamily type	100		<b>10</b> •	
Joint	206	70.0	251	62.3
luclost		30.0	152	37.7
rotal	y resolve days in	100.0	403	100.0

### 4.2.3 Size of the femily

Table 4.4 : Distribution of children according to family size.

Sh into	. 4	family	I.C.D.	s. Group	Non-I.C.	Ses Group
nesi	p01	ra	No.	*	No.	
3	CORP.	4	43	10.2	52	12.9
9	***	6	119	28.1	149	36.9
7			80	18.9	90	19.9
		10	64	15.1	41	10.2
		ad above	117	27.7	81	20.1
To			423	100.0	403	100.0

The largest number of children were belonging to the femilies having 5 - 6 members both in I.C.D.S. and Non-I.C.D.S. Study groups (20.1 and 36.6 percent respectively). 27.7 percent children in I.C.D.S. group and 10.1 percent in Non-I.C.D.S. group were belonging to the families of 11 and norm members. However, those differences were found satisfically significant (22 m 15.25, data = 46.9 (4.0.05).

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4.2.4 Per capita monthly income

Table 4.5 : Distribution of children according to per capita monthly income of the family.

per capita	Social	1.0.0	.b. Group	Non-1.C.D.S.Crou		
income (h.)	class	No.		No.		
300 - 599	11	6	1.4	6	1.5	
140 - 299	III	47	11.1	124	30.8	
60 - 139	IV	223	52.7	187	46.4	
Below 60	V	1.47	34.8	36	21.3	
Total		423	100.0	403	100.0	

Majority of the children were found to be from the families having per capita monthly income of No. 60 - 139 both in I.C.D.S. and Non-I.C.D.S. study groups (\$2.7 and 46.4 percent respectively). No child belonged to social class I (No. 600 and above) in both the groups. Children were found to be from the families having per capita monthly income of below No. 60, both in the I.C.D.S. and Non-I.C.D.S. groups (34.8 and 21.3 percent respectively).

### 4.2.5 Literacy status of the parents

Table 4.6 : Distribution of children according to literacy status of the parents.

Literacy		C.D.S.			n-L.C.D. ther	Aother		
	So.	*	No.	*	No.	***	Ho.	*
Illiterate	148	35.0	345	81.6	227	56.3	3 53	87.6
Primary	70	16.5	49	11,5	67	16.6	30	7.5
above and	205	48.5	20	6.9	109	27 .1	20	4.9
Total	423	100.0	423	100.0	403	100.0	403	100.0

and mothers of \$1.6 percent children were illiterate. In

Non-1.C.D.S. group, father of \$6.3 percent and mother of \$7.6

percent children were illiterate. However, these differences
in the educational status of fathers and mothers in the two

croups were not found statistically significant (x 4.57.

### 4.2.6 Hain occupation of family

Table 4.7 : Distribution of children according to main occupation of the family.

Main Occupation	I.C.D	sa Crow	Non-I.C. D.S. Grow		
of the family	No.		NO.	<b>%</b>	
Agriculture	263	66.9	27 2	67.5	
Labour	34	8.0	43	10.7	
bervice	32	7.6	28	6.9	
Business	12	2.8	16	4.0	
Others	62	14.7	44	10.9	
Total	423	100.0	403	100.0	

the main occupation of family of 66.9 percent
children in Lc.D.S. group and 67.5 percent in Non-L.C.D.S.
group were found agriculture. However, the differences in
the occupational status of families in the two groups were
found statistically not significant (2 4.65, 4.6. 4.6.

The state of the s

# 4.3 ENVIRONMENTAL CONDITIONS

### 4.3.1 Water supply

Table 4.8 : Distribution of children according to source of water supply.

Source of water supply	_I.C.	quero. e.	Non-1.C.D.L. Grou		
	No.	*	No.		
open shallow wells	324	76.6	349	86.6	
Mand pump	99	23.4	54	13.4	
rotal	423	100.0	403	100.0	

In I.C.D.S. group only 99 (23.4 percent) and in Non-I.C.D.S. group 54 (13.4 percent) children were using safe water supply. This difference was statistically significant  $(x^2 = 13.22, d.f. = 1, P \angle 0.001)$ .

### 4.3.2 Excreta disposal

Table 4.9 : Distribution of children according to methods of correta disposal.

Methods of emercia	J.C.D.S. O	reuglion_1	-C-D-5-62040
disyonal	NO <sub>8</sub>		4
PRAY NEW ALCOHOL	idas i L <b>AO</b> se i <b>D</b> i	•	
tasanitary Others)	47 94	2 403	100.0
	423 100.	0 403	100-0

Senitary disposal of extreta was seen only in hell percent of children in the I-C-D-S- group and not seen in Mon-I-C-D-S- group.

#### 4.3.3 Housing

Table 4.10 : Distribution of children according to housing condition.

	1.0.0	.S. Group	Mon-1.	C.D.S.Grow	2 2	
Housing condition	No.	*	No.	*	X-	8
Environmental surrounding of the house :		Approximate service and an extension of the service service service service service service service service se		agaighte ann an t-aire dean dean dean dean an t-aire ann an t-aire an t-aire an t-aire an t-aire an t-aire an t		
Hygienic	130	30.7	99	21.8	6.7	Z0.005
Unhygienic	293	69.3	315	78.2	. 37	4
Over-crowding :						
Present	273	54.5	270	67.0		70.05
Absent	150	35.5	133	33.0	. 20	/ 0.00
Ventilation :						
Adequate	102	24.1	94	20.8	•	70.05
Inadequate	321	75.9	319	79.2	40	

Locality of house was found hygienic in 30.7 percent in I.C.D.S. group and only in 21.8 percent of the Hon-I.C.D.S. group and this difference was also found statistically Significant.

A CONTROL OF THE PROPERTY OF T

The state was no significant difference in the state of over-crowding and ventilation in the I.C.D.B. and Non-I.C.D.B. group.

4.4. PREGRANT & LACTATING WOMEN AND PARILY PLANNING SERVICES

### 4.4.1 Pregnant women

Con Carolina Mandalina

Table 4.11 : Antenatal care evailed by pregnant women.

Antenatal care availed	J.C.D.S.Group () Duration of prognancy (weeks)			20-	2	De pl	ration equanc	n=19) Total %				
	16-24 24-36 No. X No. X		· tal		1	R9. X R9. X						
Tetenus tomoid immuni- zation:												
1	6	19.4	4	12.9	10	32.3	2	10.5	1	5.3	3	15.6
11	2	6.5	8	25.8	10	32.3	1	5.3	2	10.5	3	15.6
iron é folic <b>eci</b> é					13	41.9					3	15.
Medical check-up					13	41.9					3	15.

yillages only is prognant woman could be contacted. Thirteen
(41.9 percent) prognant ladies in I.C.D.S. and 3 (15.8 percent)
in Man-I.C.D.S. group utilized automatal services in the form
of medical check-up and Iron & Solic acid tablets. Totanus
canoid was given to 32.3 percent prognant woman in I.C.D.S.
group and 15.8 percent in Mon-I.C.D.S. group.

### 4.4.2 Lactating woman

Table 4.12 : Postnatal care swalled by lactating women.

Postnatal	1.C.D.5.9	roup (n=109)	Non-I.C.D.S. Group(n=126)			
care evalled	30.	*	No.	*		
Iron & folic acid	39	39 81.7		38.9		
dealth	39	81.7	49	38.9		

Lectating women availed postnotal care in respect of \$1.7 percent in I.C.D.S. group and 38.9 percent in Non-I.C.D.S. group by taking iron & folic sold and utilizing health check-up facility.

### 4.4.3 Family planning services

Table 4.13 : Feetly planning services evalled by target couples.

Type of femily planning		.S.Group 315)		5.8.6roup 230)
Control of the Control of the State of the S	Box			
(1) Specing methods : (a) Servier Nethods (gondom)	35	11.1	4.0	9.8
(b) Intra-utorine derices (Cu-T)	20	6.3	10	4.4
(a) Hormonel Methods (oral pills)	30	9.5	<b>4</b>	<b></b>
(2) Terminal methods I	ton . Y <sub>1</sub> un-			
(a) hale sterilization (vesuatomy)	- ( <b>3</b> s	0.6	8	0.4
(b) Female Sterili- sation (tubestomy)		12.1		640
recal	100	. 39.6	44	1847

For the utilisation of family planning services,

315 target couples in I.C.D.S. area and 230 in Non-I.C.D.S.

area could be contacted. 39.6 percent couples in I.C.D.S.

and 18.7 percent in Non-I.C.D.S. group were using one or other
method of contraception.

percent of male and 12.1 percent of female in I.C.D.S. group and 0.4 percent in male and 6.9 percent in female in Non-I.C.D.S. group. The women using Cu-T for family planning were 6.3 percent in I.C.D.S. group and 4.4 percent in Non-I.C.D.S. group. Oral pills were taken by 9.5 percent in I.C.D.S. group and 1.7 percent in Non-I.C.D.S. group. 11.1 percent couples in I.C.D.S. group and 5.2 percent in Non-I.C.D.S. group were using condoms.

Table 4.14 : Distribution of terminal methods of family planning according to number of children.

			1.6.0	S.Group	Non-LaCal	GEOUR
UESTER	01	children	no.	*	10.	8
	3			20.0	•	17.7
		histor Accident		30.0		29.4
14	5		16	40.0	- 8	17.6
•		<b></b>		10.0	6	
	Jea		40	100.0	17	100-0

### 4.5 BIRTH ORDER

Table 4.15 : Distribution of children according to their birth order.

		-	I.C.D.	Group_	Non-1.C.	D.b. Group
isth of	des		No.	*	20.	*
1			98	23.2	106	26.8
II			133	31.4	91	22.6
III			103	24.3	95	23.6
TA.			51	12.1	63	15.6
٧			21	5.0	26	6.4
VI			12	2.8	11	2.7
ATT	and	above	\$	1.2	•	2.3
Tota	1		423	100.0	403	100.0

children were belonging to birth order II, while in Non-I.C.D.S.
group, maximum (26.6 percent) were of the birth order I. There
ere higher (26.6) percentage of children of birth order I.
in Lateb.Se group as compared to 40.4 percent in Non-I.C.D.B.
group, mover; these differences were statistically not

so weight of sale culldes by their ace. Table 4.16 a Distribution of me

			22.00		Callaba Group	0(20-215)			I.C. h. R.	(1972)
				į	Mean ( Ng.)	\$	فد	4	Mean weight (Mg.)	Δ.
	3	3	3	•		0.97	0.61	70.05	4.5	1.42
	1	3	8.0	1	5.0	6.8	1.00	70.05	6.3	1.14
	•	3	500	2.5	3	98.6	1.76	70.05	6.9	1.15
	•	3	0.50	5.7	0.9	06.0	1.92	70.05	7.4	1:3
	3	7.0	1:8	2	3	7.8	3.46	70.01	4.0	1.73
•	\$	7.0	0.97	0	3.4	1.26	6.80	70.07	10.2	1.80
•	3	10.3	1.42	\$	10.2	1.23	2.14	50.07	11.8	2.06
	2	7.51	1.72	2	22.0	1:3	3.70	70.01	13.5	2.97
	2	14.6	0.93	2	13.9	1.48	19.7	1 0.05	14.8	2.20

adjustitement in 0-1 year of ago. Neight of the children in both the groups were however, less group in all ages but the difference was statistically aignificent from 1 to 5 years and not Children in L.C.D.5. group hed higher value for weight as compared to Non-L.C.D.5. the Lichalts in all apre-

4.17 : Distribution of mean velent of female children by their age. Table

		a) dincape	-197	Han-Li	merce Debe Groun	aup(n=188)			1.C. 5. 2. (1972)	(1972)
		1 S		9		G. 8	:	<b>a.</b>	Western Charles	d s
	\$	3	3	٠	2	0.0	0.22	70.05	4.2	1.17
1	3	3	3	2	9.	09*0	1.70	70.05		0.98
	3	3	96.0		3	1.20	1.25		6.2	0.99
	•	53	8	•	3	1.34	0.00	70.05	9.9	1.13
	8	6.3	1.9	×	6.2	1.8	2,33	50.07		3:
	8	3	1.26	24	7.4	1.00	3+23	10.07	9.6	7.07
	8	10.6	1.40	36	9.6	1.32	2	10.07	12.2	1.96
	8	12.5	1.40	8	11.1	2.19	3.18	70.01	12.9	2.17
	8	14.3	*	23	13.3	1.63	2.50	50.07		2.31

Weight of the female children was higher in L.C.D.S. group, in comparison to Non-L.C.D.A. group in all age groups and this difference was statistically significant from age groups 1 to 5 Fresh but not significent in 0-1 year age group. Weight of the children in both the groups were however, less than L.C.M.R. standerd in their respective groups

Section Section

Table 4.18 : Distribution of mean helght of male children by their age.

			-226)	Non-1-	029-2-C-D-8-6E9	30(0=215)	٠		LoComon	.(1972)
				o R	(cms)	Q		•	(ca.) S.D.	<u>.</u>
C 3 south		3		•	:	8.3	96.0	70.05	\$6.3	2.90
1		: 8	3	1		6.79	1.08	70.05	62.7	4.01
		3.3		2	63.0	97	1.02	70.05	2.83	8.10
		65.2	ş	:	6.23	3.22	0.38	70.05	3	4.50
Transport	\$	1:8		20	6.09	5.36	1.00	,	73.9	*
* * * * * * * * * * * * * * * * * * * *	•	36.8		\$	16.6	4.73	1.90		97.0	5.22
	•	17.50		\$	84.4	4.11	94.0	70.08	89	6.50
•	2	\$2.5		30		3.93	4.60	10.07	0.96	6.72
	R	\$.06	3.72	2	95.0	4.40	1.52	70.05	102.1	90.0

Money, C.D.S. group in the age group 44 years only. Comparing these observations with 1.C.H.A. it is revealed that the mean height in both the groups in all ages has been lower than that Meight of male children was significantly higher in L.C.D.S. group as compared to

Observed by Liferance

Table 4.19 : Distribution of height of female children by their ege-

(1972)	3	5.41	3.55	3.63	3.05	5.20	5.70	6.36	6.35	7.35
L.Car. R. (1972)	200	25.0	6.09	\$4.50	3	72.5	30.1	6	94.5	101.4
a		70.05	70.05	70.05	70.05	70.05	70.05	50.07	70.03	70.05
4		0.20	2	90.0	1:00	1.06	3:	2.05	3.00	1.48
(881=3)	6 8	3	4.42	3.92	3.69	4.23	3.99	4.0	6.74	4.72
99-1-C-D-6-Group(g=198)	(Comp.)	62.04	55.0	8	***	***	15.3	83.6	86.0	95.2
Non-Lick		•	2	2	•	22	**	2	2	2
16.5	g e		3.8	3	6	3.4	4.33	3.3	53	6.46
	Î		3	6000	65.3	9.8	16.9	84.3	900.5	***
			2	2	•	8	- 7/1	S.	8	8
								400		

in all ages but the difference was statistically significant only in those, eged 3r & 4r years. Penale children were comparatively less tall in Hon-L.C.D.S. group than L.C.D.S. group All the values for height in both the groups were less as compared to the L.C.A.A. Standards.

### 4.6.3 Weight-Height Index

Table 4.20 : Distribution of weight-height index of children.

	I.C.D.b	Group	Non-LeCalle	b. Group
460	Male	Yemel e	Nale	Penale
3 months	0.152	0.150	0.151	0.150
3-5 months	0.159	0.154	0.153	0.156
6-8 months	0.151	0.150	0.144	0.142
-11 months	0.169	0.151	0.142	0.144
1 year +	0.159	0.144	0.144	0.133
2 years +	0.144	0.142	0.133	0.130
3 years +	0.149	0.149	0.143	0.140
4 years +	0.157	0.152	0.152	0.150
5 years +	0.154	0.153	0.150	0.147

The index has been assessed by Height (kgs) x 100

Value Z.0.15 was considered as below normal. Upto
6 months of age, children in both I.C.D.S. and Non-I.C.D.S.
groups were found to be normal according to this index.
Nowever, after 6 months, children in Non-I.C.D.S. group showed
Lower index in all age groups except in ages 4+ years and
S+ years. In I.G.D.S. group, however, children only at ege of
2- years showed below normal index in both senses and female

HARBROWS OF DEVELOPHEN

ble 4.24 : hear age of achieving mile stones.

	L.C. D.S. Group				Comme	Market Company of the Company	
	Meen ago (nonthing)	4	ś		d.s		•
	\$.5	9.35	A	3	1 3		
30	7.5	1.03	362	7.4	1:1	1.33	70.05
8	3	1.14	R	3	1.23	3.12	70.01
*	10.6	1.22	#	11.9	1.32	13.00	7 0.003
3	5.51	1.56	308	15.0	1.72	17.69	70000
336	15.6	1.83	202	17.0	2.03	16.63	700.001
8	27.6	30	260	29.0	3	4	70.001

Intelletically significantly delayed in Non-LeC.D.S. group as compared to the L.C.D.S. Emspectively). Other mile stones - Cresiing, stending, valking, tectning and talking were I.C.D.S. group (6.5 & 7.5 months respectively) and in Non-I.C.D.S. group (4.5 & 7.4 months There was no significant difference in attainment of head holding and sitting in

SALETTE TO

ble 4.21 : Prevelence of malnutrition.

L.C.D.S.GERND (n=423)	up (n=423)	Real Lands Base	Non-Lacabachacham (n=103)
i	201/01/2	No.	Ret 4/100
Š	9:6	332	1.50
2	46.8	22	55
3	10.1	59	16.1
3	**	8	6.7
	*	٠	1.5
	6.0	97	9.
8	5.0	82	6.9
63(11-353)	10°	127(190332)	36.2
3	19.3	105	31.6
2	4.2	C4 C4	9.0
			0.3

it was alai percent in Non-L.C.D.b. group. This difference was highly significent (2 = 4.08. P. Co. oils Morewest, providence of severe grade of P.B.M. (Grade 111 & IV) was 4.2 per 100 Parallebrica (1972). Overall provalence of P.L.M. in L.C.D.S. group was 67.6 percent, while Protein morey Nolmutrition was elessified as recommended by Indian Academy of In Lacinia, group, wheteas it was 6.6 per 100 in the Non-Lacinia, group of children

There was significant difference in the prevalence of Vit. A deficiency in I.C.D.S. (0.7 percent) and Non-I.C.D.S. (4.0 percent) group (Z = 3.26,  $P \angle 0.01$ ). Difference in the prevalence of angular stomatitis was not however, significant statistically (Z = 1.20,  $P \angle 0.05$ ).

out of 423 children, 353 (83.5 percent) in 1.C.D.S.

group, and out of 403 children, 332 (82.4 percent) in Non1.C.D.S. group could be investigated for Nb. estimation.

Children having Nb. 10 gms. percent and above were considered normal while others anaemic. There was significant difference in the prevalence of anaemia between I.C.D.S. (19.3 percent) and Non-I.C.D.S. (31.6 percent) groups of children (204.45, 9 \( \infty \) 0.01).

### 4.9 IMMUNICATION

Table 4.23 : Immunization status of the children .

Immunited with		5. Group (423)		(p+403)	121	•
	Bo.		Ro.			
B.C.G. Vectine	114	27.0	95	23.6	1.12	70.05
D.P.T. I	294	58.9	167	41.4	3,42	40.02
100 1004-0.40 <b>318</b>	112	26.5	48	11.9	5.44	40.01
111	80	19.9	32	7.9	4.71	∠0.02
	10	2.4	3	0.7	1.90	70.05
Polito	249	50.9	167	41,4	<b>443</b>	<u> </u>
The Republic Park	112	26.3	48	11.0	5,44	<u>_0.01</u>
		30.0			1.00	<u>/0.01</u> 70.05 /0.01

B.C.C. was received by 27.0 percent children in 1.C.D... group and 23.6 percent in Non-1.C.D.D. group.

I. II & III doses of D.P.T. and Polio were received by 58.9.

26.5 and 18.9 percent children respectively in 1.C.D.D. group.

Corresponding figures for Non-1.C.D.S. group of children were

41.4. 11.9 and 7.9 percent respectively. 2.4 percent children in 1.C.D.S. group and only 0.7 percent in Non-1.C.D.D. group received booster dose of D.P.T. and Polio vaccine. In Non-1.C.D.B. group, only 2.0 percent children were given measles vaccine while in 1.C.D.S. group, 30.0 percent had measles vaccine to 8.C.G. and booster doses of D.P.T. a Polio vaccine.

### 4.10 MORBIDITY

Table 4.24 : Morbidity in the children at the time of study.

Discases		D.S.Group p=423)		1-1.C.D.S. No(n=403)		
	Ro.	Rate/100	Ho.	Rate/100		
Upper respiratory tract infections	40	9.5	62	15.4	2.59	∠0.01
Diarrhoes & dysentery	51	12.1	76	13.9	2.71	L0.01
Pew ar	31	7.3	50	12.4	2.44	40.05
Skin discess	•	3,4	11	2.7	1.32	70.05
Otitis media	2	0.5	7	2.7	1.44	70.05
Eye diseases	4	0.9	7	5.7	0.98	70.05
Others	•	4.4	7	1.7	0.37	70.05
Total spalls	W	33.4	220	94.9		

In both the groups, upper respiratory tract infections and diarrhoes & dysentery were major causes of sickness. There was significant difference in the prevalence of distribute and dysentery in 1.C.L.L. and Mon-I.C.D.B. groups, i.e. 12.1 per 100 and 18.9 per 100 children respectively (2 = 2.71, P / 0.01). Skin diseases were found in 6 (1.4 per 100) children in I.C.D.S. group while it was approximately double in Non-I.C.D.E. group (2.7 per 100). This difference wes found statistically ineignificant (2 \* 1.32, P 7 0.05). Other diseases included fractures of feaur bone, marassus and lower respiratory tract infections, chicken pox. There were 3 cases of polionyelitie in I.C.D.B. and two cases in Mon-I.C.D.D. aren. Hean spells of sickness per 100 children was 33.1 in I.C.D.S. group as compared to S4.5 in Mon-I.C.D.S. group.

Table 4.25 : Overall morbidity in children at the time of study by age and sex.

Age &	Children studied	Sickness		Children studied	Non-1.C.D.5. Group		
		No.	*		No.	*	
_ 1 year							
Male	37	12 22.7	13.5	50	21 43.8	36.0	
Female.	38	12}22.7	31.6	39	21 343.8	53.9	
l year :	*						
Male	40	10 34.9	25.0	20	13 51.1	50.0	
Female	26	13 34.9	50.0	25	13351.1	52.0	
2 years :							
Male	41	12}	14.6	40	20 59 . 4	20.0	
Female	34	16 37.3	26.5	24	20 3 29 . 4	50.0	
3 years :							
Male	41	9 19.2	29.3	67	12 23.5	30.3	
Penale	37	9319.2	43.2	39	12323.5	52.6	
years :							
Male	38	10 29.3	27.0	30	12 39.0	36.7	
Penale	37	12329.3	32.4	20	125	41.4	
years :							
Nale	29	6 24.1	20.7	28	12 41.0	42.9	
Female	25	752	28.0	33	135	39.4	
Potal :		india vii	Y Y Y Y Y Y			- 1	
Mele	226	49)	21,7	215	91 41.6	35.8	
Female	197	69  27 .9	35.0	198	915	40.4	

The Company of the Co

sickness per sick child in the L.C.D.S. group and Non-L.C.D.D. group were 1.2 and 1.3 respectively.

percentage of sick children was higher in Non-1.C.D.S. group as compared to the 1.C.D.S. group in all ages. Percentage of sick children in aged 1 - 2 years in both the groups were highest. There was no significant difference in the prevalence of sickness between males and females in both the groups  $(x^2 = 0.125, d.f. = 1, p. 70.5, x^2 = 0.018, d.f. = 1, p. 70.5)$ .

Table 4.26 : Worm infestation in children at the time of study.

	1.0.0	S. Group	Non-L.C.	Non-I.C.D.S. Group		
Parasite	No.	*	110.			
Ascaris	s	26.8	49	34.2		
Ankylostoma	3	1.5	2	1.0		
Others	5	2.5	•	3.9		
Sone.	137	69.2	123	60.9		
fotal	198	100.0	202	100.0		

and 202 (50.1 percent) stool samples in 1.C.D.S. group could be collected and examined for ove and eyet. In 1.C.D.S. group group 61 (30.8 percent) and in Non-1.C.D.S. group 79 (30.1 percent)

Ascaris was found to be the most common parasite in the I.C.D.S. (26.8 percent) as well as in Non-I.C.D.S. groups (34.2 percent).

### 4.11 PERSONAL HYGIAME

Table 4.27 : Personal hygiene status of the children.

Personal hygiene	1.C.	.E. Group	Non-1.C	· D. L. GERRY
	Ho.	*	No.	*
60 <b>0đ</b>	42	9.9	24	6.0
Pair 1	195	46.1	98	24.3
Poor	186	44.0	281	69.7
Total	423	100.0	403	100.0

Level of personal hygiene was assessed on the basis of the criterion adopted. 14.0 percent children in I.C.D.S. and 60.7 percent in Son-I.C.D.S. groups were having post personal hygiene. Difference in the personal hygiene Status of children batters these two groups was highly significant (xf a 55.09, daf. = 2, 3 / 2.0.001).

### 4.12 CRULE BIRTH RATE

Table 4.28 : Showing ennual grude birth rate in 1.C.D.s. and

	Popu-	Number o	d birth in	one year	Crude birth
	letion	Male	Yenale	Tot al	rate/1000
1.6.0.4.	3088	24	27	51	16
Non-L.C.D.S.	2532	44	39	83	32

Crude birth rate in I.C.D.S. group were 16 per 1000 population.

### 4.13 ADRIALITY

Assides to the Milks of

The March 14 bear

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Table 4.29 : Showing infant mortality rate in I.C.D.D. and
Hon-I.C.D.S. areas.

Croups	Total Eirth	and a second second	The second secon	f infant	death in	infant mortality
	one y	•••	Nelle	Pamala	70tal	rate
		i to to the second			5	100.0
.C.D.B.	20					

Infant mortality rate in 1.C.D.S. group was 100.0/1000
Live births units it was ill.1/1000 live births in the Hon-

- 11

4	W)	0		.D.5. 9	Non-I.C.D.S. Group			
()	(0)	are)	Popula- tion at risk	No.of death	Death rate per 1000	Popula- tion at risk	No.of death	per 1000
O	***	1	78	7	89.7	93	10	107.5
1	1000	5	371	5	13.5	330	7	21.2
0	***	5	449	12	26.7	423	27	40.2

For age specific death rate, population in that particular age at the time of survey was taken as population at risk. Overall mortality (0-5 years) was 26.7/1000 in I.C.D.S. group and 40.2/1000 in Non-I.C.D.S. group. Mortality rate in 1-5 years age in I.C.D.S. group was 13.5 per 1000 population while it was 21.2 per 1000 population in the Mon-I.C.D.S. group. Mortality in 0-1 year age in I.C.D.S. group was 89.7 per 1000 population while it was 107.5 per 1000 population in the Mon-I.C.D.S. group.

Table 4.31 : Causes of death in the children.

Couses of	0-1 year 1-5 year			CONTRACTOR AND ADDRESS OF THE PARTY OF THE P	0-1 year 1-5 year			
	No.	*	Ro.	*	No.	*	No.	14
Birth injury	1	14.3	•	•	2	20.0	•	•
Zet anus neonatorus	•	14,3	-		2	20.0	•	
Respiratory infections	**************************************	23.6	8	40.0		20.0	1	24.3
Lisease		14.3	4 <b>3</b> - 1 A	20.0		30.0		20.6
(arabina)				1 <b>4</b>	1 ( <b>*</b> - 1 * 1	•	8.4	20.0
State : New York	•	20.6	4	40+0		10.0		28.6
rotal	•	100.0		00.0	10	100.0		100.0

Causes of death were assessed on the basis of symptoms described by parents.

was respiratory infections (28.6 percent) while in Non-1.C.D.b. area it was diarrhoeal diseases (30.0 percent). Major causes of 1-5 years mortality in I.C.D.S. area were respiratory infections and typhoid fever (40.0 percent each), while in Non-1.C.D.S. area major causes were diarrhoeal diseases and marasmus (28.6 percent each).

### 4.14 UTILISATION OF HEALTH SERVICES

Table 4.32 : Type of medical care availed.

Type of services	I,C,D,S, (pm4)			Non-1.C.L.S.Group (n=403)	
	110.	3	20.		
Government agencies	303	71.4	232	54.9	
Private Practitioner :					
• Allopathic	1.67	39.5	108	25.5	
- Ayurvedic	150	35.5	81	19.2	
- Outcht strike	50	13.2	120	29.8	
- Others		20.1	91	22.6	

pore than one agency may be utilised to single instance.

Covernment agencies were utilised in 71.4 percent cases in

1.C.D.S. group as compared to 54.9 percent in Non-1.C.D.S. group.

THE PARTY OF THE P

This difference was statistically significant (2 = 4.99.

P \_ 0.01). Utilisation of Homeopathy was nil. 20.1

percent in I.C.D.S. and 22.6 percent in Non-I.C.D.S. group depended on traditional healers, advice of relatives and neighbours or self medication.

Table 4.33 : <u>Distribution of children according to</u>

	I.C.D.	s. Group	Non-1,C.D.S.Group		
Ante-natal care	No.	*	No.	*	
Availed	194	45,9	75	19.6	
Not evalled	229	54.1	326	81.4	
Total	423	100.0	403	100.0	

respect of 45.0 percent children of the L-C-D-Sand only 10.5 percent of Non-L-C-D-S- group.

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was to be about 100 to 100

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This difference was found highly significant ( $x^2 = 69.68$ , d.f. = 1, P  $\angle$  0.001). In I.C.D.S. and Non-I.C.D.S. groups both, antenatal care was provided by A.N.Ma/H.V.

Table 4.34 : Distribution of children according to place of delivery and type of birth attendent.

Place of delivery and type of birth attendent	No.	% Group	No.	.D.S.Group
ioopital	39	6.9	76	18.4
Home	394	93.1	329	81.6
- Trained person	10	6 39.2	48	11.9
- Untrained person	22	53.9	261	69.7
Potal	423	100.0	403	100.0

In I.C.D.S. group, 39 (6.9 percent) and in Non-I.C.D.S. group, 74 (18.4 percent) deliveries were conducted in hospital. However, this difference was significent statistically (2 = 5.46, P (\_ 0.01). Nost of the deliveries in both 1.C.D.S. and Non-I.C.D.S. groups (93.1 and 81.6 percent respectively) were conducted at home.

### 4.15 FEEDING PRACTICES

### 4.15.1 Breast Feeding

Table 4.35 : Total duration of breast feeding.

Total duration of	L.C.D.	S. Group	Non-I-C	P.S. GEVED
preast feeding	No.		XO.	
L 6	11	3.5	7	2.4
6 - 11	38	12.1	32	11.1
12 - 17	59	18.7	43	14.9
18 - 23	1.27	40.3	133	46.2
24 & above	90	25.4	73	25.4
Total	315	100.0	288	100.0

Total duration of breast feeding refers to the period till the child is put on the breast, which may be in addition to other food studie. Out of 423 children in I.C.D.S. group, there was 108 (25.5 percent) children were still breast fed at the time of study. Out of 403 children in Non-I.C.D.S. group, there were 115 (26.5 percent) being still breast fed at the time of study.

of age. Majority of children in both I.C.D.S. (40.3 percent) and Non-I.C.D.S. (46.2 percent) groups were breast fed upto 18-23 months of age. These differences in I.C.D.S. and Non-I.C.D.S. groups were not statistically significant (X<sup>2</sup> = 3.15, d.f. = 4, F 7 0.05). Hean duration of breast feeding in I.C.D.S. and Non-I.C.D.S. groups were 18.6 and 13.9 months respectively.

4.15.2 Weening

Table 4.36 : Ace at veening.

Age at wearing	I.C.P.S	. Group	Non-I.C.D.S.Gro		
(months)		*	20.	*	
Below 6	16	4,5	5	1.5	
6 - 11	203	57.9	107	31.5	
12 - 17	103	29.1	160	47.1	
la - 23	. 30		50	17.0	
24 <b>6. 45079</b> (ii) Hills	tandikan Tetar di	Andre Theory	//10 -	2.9	
		100-0	340	100.0	

The state of the s

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while in Non-L.C.D.S. group, 2.9 percent children were weamed even after 24 months of age. These differences were found statistically significant (X<sup>2</sup> = 56.87, d.f. = 3. P \( \sum 0.001 \). Mean age at weaming in L.C.D.S. group was 11.8 months, while in Non-L.C.D.S. group it was 16.2 months.

Table 4.37 : Type of wearing food given to children.

Weaning f	lood	1.C.D.	. Group	Ron-I.C.D.S.Croup	
		No.	*	20.	*
Cereals		354	83.7	360	84.4
Pulses	1. 11 M	216	51.1	106	26.3
Vegetable	a Enults	93	22.0	84	20.8
			1.9	•	0.7

a petrolettate et landere et inner

the children in I.C.D.S. group (83.7 percent) and Coronic work in the children in I.C.D.S. group (84.4 percent) had Coronic work in February 12.5 percent in Ron-I.C.D.S. group and in Ron-I.C.D.S. grou

Table 4.38 : Type of supplementary nutrition given.

Type of mentary	supple- nutfition	1.C.D.S.Group (n=423)		Group(n=403)			>
		No.	*	30 .	*		
Vitamin concent		277	65.5	62	15.4	17.16	∠0.01
iron & f		145	34.3	35	8.7	10.89	L0.01
Supplem	entary food	116	27 .4	•		•	•

given during preceding 6 months and for Iron & folic acid and supplementary food, it was enquired as to how frequently the child received it during the last month. Coverage of vit. 'A' and Iron & folic acid was statistically higher in I.C.D.S. group (65.5 and 34.3 percent respectively) as compared to Non-I.C.D.S. group (15.4 and 8.7 percent respectively).

Table 4.39 : Periodic medical check-up of children.

****		1.C.D.S. Group		Non-1.C.D.S.Group	
Die .		800		No.	
			43.3	60	9.0
		240	56.7	363	90.4
	<b>Ad</b>	•	100,0	403	100.0

In I.C.D.S. group, periodical medical check-up of children was done in 43.3 percent while it was only 9.9 percent in Non-1.C.D.S. group. This difference was found highly significant ( $X^2 = 116.38$ , d.f. = 1, F  $\angle$  0.001). In all children in both groups, medical check-up was done by ARMS/NV.

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### CHAPTER V

### 5. <u>DISCUSSION</u>

a national effort for improving the health and well being of the most vulnerable group of population aged under 6 years. The other beneficiaries of the I.C.D.S. scheme are also pregnent women and nursing mothers. The scheme has extended its services in selected areas since 1975 (Tandon 1982) and Chirgaon Block, where the scheme was started in 1980-81, is the universe of this study. To have an appraisal of the services and to assess the impact of the scheme, the health status of 423 children of I.C.D.S. Block Chirgeon and 403 children aged under 6 years of the adjoining Non-I.C.D.S. block Sarageon of district Jhonsi have been studied.

## 5.1 Bio-mocial characteristics of study population

group (73.4 percent) belonged to scheduled and backward castes. More than half of the children in both the groups were from larger families comprising of more than 6 members.

Majority of children in the L.C.D.S. and Non-I.C.D.S. groups belonged to the joint families. For capita monthly income of the families of the majority, in both the groups were having income of M. 60 - 139. Supta et al (1984) have reported that majority of the children in both the groups were from larger families comprising of more than 6 members; and majority of the children of both the groups were from joint families but families of majority in both the groups were having per capita monthly income of less than M. 50/- per month.

In the two groups of children studied, though showed some variation, has not been significant, Majority of the parents in both the groups were illiterate. Supta et al (1984) have also reported, majority of the parents in both the groups will the main occupation of the family of both the groups of children showed some variation, but not very significant, Majority of the families were having agriculture at main occupation.

Less (so, a parcent) in non-1 c.u.s. Thus, the children in the

T.C.D.S. and Non-I.C.D.S. blocks have been fairly well matched in respect of their various biological, familial and economic characteristics.

### 5.2 Lavironmental conditions

In the present study 76.6 percent of the I.C.D.S.
and 86.6 percent of Non-I.C.D.S. group were found, dependent
on open shallow wells for water supply. These findings have
been in line of the observations of Shive Rem (1969) and
Singh (1970) and by and large support the observations of
W.H.O. (1976) which states that 82.0 percent of rural
population does not have assess to the safe water supply.
Recently, Maheshwari (1881) has also observed that 89.2
percent of population received water from open shallow wells
and Gupta et al (1984) has also observed that 94.2 percent
in I.C.D.S. and 97.8 percent of Non-I.C.D.S. group were
dependent on open shallow wells for water supply. Interestingly,
significantly higher percentage (23.4) of the I.C.D.S. group
were receiving safe water than the children of the NonI.C.D.S. group (13.4 percent).

better in I.C.D.S. group in comparison to Non-I.C.D.S.
group (30.7 percent and 21.8 percent respectively).
Over-crowding has been absent in 35.5 percent and 33.0
percent, while ventilation was adequate in 24.1 percent
and 20.8 percent houses of the children of I.C.D.S. group
and Non-I.C.D.S. group respectively. Shive Rem (1969)
reported the adequacy of ventilation in 20.9 percent of the
population studied and Oupta et al (1984) reported adequacy
of ventilation in I.C.D.S. group, and as such the observations
of this study show a higher number having adequate ventilation
than these researches. However, the criteria for adequacy
of ventilation could not be compared to attach any
significance to this finding.

### 5.3 Pregnant, Lactating women and Family Flanning Services

natal care in I.C.D.S. group as compared to Non-I.C.D.S. group

(15.8 percent) in the form of Iron & Solic acid tablets and

medical check-up facility. In I.C.D.S. group, betanus toxold

vas given to 31. percent prognant woman while in Non-I.C.D.S.

group only 15.8 percent. St. percent lactating woman

evaluat postmatal care in I.C.D.S. group and only 38.9 percent

in the I.C.D.S. group by utilizing Iron & Solic acid tablets

and health theck-up (acidities.

In I.C.D.S. area, family planning services was given to the eligible couple in form of tubectomy (12.1 percent) and vasectomy (0.6 percent) and in Non-I.C.D.S. area tubectomy (6.9 percent) and vasectomy (0.4 percent). Oral contraceptives was given to 9.5 percent women in I.C.D.S. area and only to 1.7 percent women in Non-I.C.D.S. area. Vasundhara et al (1983) have reported, the increase in the acceptance of family planning methods especially sterilization in the I.C.D.S. areas was highly significant in comparison to control area. 40.0 percent sterilized couples of I.C.D.S. group were already having 5 children and 35.3 percent sterilized couples of Non-I.C.D.S. group were having 6 or more children.

### 5.4 ANTHROPOMETRY

### 5.4.1 Melchi

Children in I.C.D.B. group had higher values for weight as compared to Non-1.C.D.B. group in all ages and in both sexes, but the difference in males and females was statistically significant from 1 to 5 years of age and not significant from 0 - 1 year of age. Male children in all ages were having higher values for mean weight them that of the female in both the I.C.D.B. as well as Non-1.C.D.B. groups. Children in both the groups were having mean weight less than reported by I.C.N.R. (1972) in all ages. Similar has been the observations of Bakahi et al (1977). Chandra et al (1978).

who have also observed male children to be heavier than females and both sexes having mean weight less than I.C.K.R. Standards.

### 5.4.2 Height

Children of both the sexes in 1.C.D.S. group were having higher values for height in all ages as compared to Non-1.C.D.S. group and this difference was statistically significant at the age of 4+ years in sales and 3+ 5 4+ years in females. It may be due to the consideration that stunting occurs only in chronic malnutrition. This was observed by Secome and Latham (1971), Waterlow and Alleyne (1971) and Shastri et al (1973). Thus the deficit height, as an indicator of the duration of malnutrition, would be evident at an older ages.

In both 1.C.D.S. and Non-1.C.D.S. groups, makes were taller than females in all ages. Bakshi et al (1977) found boys to be taller than girls except at five years of age, while Srivastava et al (1980) and Supta et al (1984) reported similar findings as observed in the present study.

is comparison with I.C. s.s. standards, children of both seems in both groups were having lower values. Similar has been the observations of Chandra et al (1978), Srivastava et al (1980) and Verma et al (1980) & Supta et al (1984).

## 5.4.3 <u>Neight-Height Index</u>

Weight/Neight<sup>2</sup> ratio has been equally valid in comparison to weight for age method in detecting malnutzition

(Sen et al, 1980). Weight-height index showed that upto 6 months of age children in both 1.C.D.B. and Non-I.C.D.B. groups, were normal according to this index. This reaffirms adequacy of breast milk for nutrition of infants upto the age of 6 months. However, after 6 months, children in Non-I.C.D.B. group showed below normal index in all ages except in 4+ & 5+ years, whereas, in I.C.D.B. group, this index was found below normal only at 2+ years of age in male and 1+ and 2+ years in females. This shows better nutritional status of children before 6 months and after 4 years of age and points out the most vulnerable age for malnutrition being 6 months to 3 years. Bakshi et al (1977) in their study of pre-school children have also observed better growth after passing vulnerable period of 1 - 3 years.

### 5.5 MILE STONES OF DEVELOPMENT

vere significantly delayed in Non-I.C.D.B. group of children.
This could be ettributed to the significantly higher
provelence of melnutrition in Non-I.C.D.B. group of children.
Hethur et al (1974) Decki Henden (1978) and Cupta

(1984) have also observed being milestones in melnourished.

It imposes that besid objective of I.C.B.B. schools

by promoting development of children in being gradually.

### 5.6 <u>MALMUTRITION</u>

Protein energy malnutrition, in the present study has been classified as recommended by Indian Academy of Paediatrics (1972). Overall prevalence of P.E.M. was found significantly higher (82.1 percent) in Non-1.C.D.S. group of children in comparison to I.C.D.S. group (67.6 per 100). Moreover, prevalence of severe grades of P.E.M. (Grade III & IV) was 4.2 per 100 in I.C.D.S. group, whereas it was significantly higher 6.6 per 100 in the Non-I.C.D.S. group. This shows positive impact of 1.C.D.S. scheme on the prevalence of P.E.K. specially of severe grades. This observation correborate the findings of Sunder Lal (1980), Tandon et al (1981), Patel (1982) and Gupta et al (1982). Contrary to this, Patowary (1981) while evaluating the I.C.D.S. project in Assem, could not establish a significant change in the state of severe grades of malnutrition. Also, Bhandari et al (1981) did not find any significant improvement in the grades of P.E.H. during the period of one year from 1978 to 1979. It is evident that benefits from the I.C.D.S. scheme here not been uniform all over the country. The reasons for these differences need further study.

from Rajastham, Verma et al (1978) from Udaipur, Soni (1980)
from Rajastham, Verma et al (1980) & Srivastava et al (1980)
from Jhansi, and Tandon et al (1981) from Delhi, who have
reported overall prevalence of P.E.M. 77 to 95 percent.
But Srivastava et al (1979) found a lower prevalence
(43.1 percent) in a rural population of Lucknow. Contrary
to this, Supta (1977), Aya Ram (1980) and Tomer et al (1982)
& Supta et al (1984) who have reported lower prevalence of
P.E.M. ranging from 70 to 73 percent. Severe grades of P.E.M.
have been reported to be 14 - 16 percent.

There was significant difference in the prevalence of vit. A deficiency in I.C.D.S. (0.7 percent) and Non-I.C.D.S. (3.9 percent) groups of children. This could be ettributable to the higher coverage of vit. A supplement in I.C.D.S. group of children. Patel (1982) has also reported decline in vit. A deficiency from 4.4 to 0.7 percent in an I.C.D.S. group has been similar with the observations of Mathur et al (1974). E.C.M.R. (1977). Tandon et al (1981) and Gupta et al (1974). Considerably high prevalence of vit. A deficiency has been reported by Chendra et al (1970) from Tanil Hadis Scal (1980) a Tomar et al (1982) from Rejention.

However, Patel (1982) noted decline of angular stomatitis from 1.7 to 0.2 percent in an I.C.D.S. area. Observations of this study regarding the prevalence of angular stomatitis have been similar to that of Srivastava et al (1979) and Soni et al (1980) & Gupta et al (1984). Chandra et al (1978) have observed angular stomatitis in 34.7 percent of Fural pre-school children of Tamil Nadu. These wide variations in the prevalence of angular stomatitis could be due to differences in food hebits of the people.

ansemia was observed in Non-L.C.D.S. as compared to 1.C.D.S.

(23.5 percent) group of children. Patel (1982) has also reported declining trends in the prevalence of ansemia 15.0 percent in 1977 and 1.7 percent in 1980. On comparing the observations of Non-L.C.D.S. group with the studies conducted in area not benefited by I.C.D.S., findings of this study have been in line with the observations of Tandon et al (1981), Verma et al (1981), Tomor et al (1982), Gupta et al (1984) and Mahashwari et al (1985).

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were received by 58.9, 26.5 and 18.9 percent children respectively in I.C.D.S. group. Corresponding figures for Non-I.C.D.S. group of children were 41.4, 11.9 and 7.9 percent respectively. 2.4 percent children in I.C.D.S. group and only 0.7 percent in Non-I.C.D.S. group received booster dose of D.P.T. and Folio vaccine.

Measles vaccination was given to 30.0 percent children of I.C.D.S. group, while in Non-I.C.D.S. group 2.0 percent of the children received it. Sunder Lel (1980) reported coverage of B.C.G., D.P.T. & Oral Polio in 48.3, 69.9 and 66.0 percent children in an I.C.D.S. area. Similarly, Tundon (1981) in his report from different I.C.D.S. projects of the country has found coverage of B.C.G. and D.P.T. to be 69.2 and 17.6 percent respectively.

Prom the foregoing discussions, it is evident that coverage of D.P.T. and Polic veccination in I.C.D.S. group of the present study has been in line with the observations of other workers but the coverage for B.C.G. was poor.

It has been pointed out by workers (Semena, 1979)
that immunization status depends much upon the educational
standards of the parents, especially of the mothers and
continuous health education has had a positive impact in
improving the status of immunication in various regions.
In addition to it, easy availability of vaccines and door to
door facility, local customs, taboos and fear of complications
are determinants of immunication status of a community.
These may be the reasons for wide variations observed by
different researchers in different areas.

In Non-I.C.D.S. group, Daltal et al (1985) and Sahu et al (1985) have been also observed less coverage of B.C.G. (25.0 and 12.8 percent respectively), but Mohill (1987) observed higher coverage for the measles (23.7 percent).

### 5.8 HORBIDITY

### 5.8.1 Murbidity at the time of study

In both I.C.D.S. and Non-I.C.D.S. groups, upper
respiratory tract infections and distribute & dysentery vero
major causes of sickness. There was significant difference
in the prevalence of distribute & dysentery and upper
respiratory tract infections in I.C.D.S.(12.1 and 9.5 per 100
respectively) is compared to Non-I.C.D.S. group (18.9 and
15.4 per 100 respectively). Detter personal hydiene of
I.C.D.S. group of children may be the possible explanation
tor this difference. Near spalls of sickness per 100 children
tes 35.1 in I.C.D.B. group as seepared to 54.5 in the NonI.C.D.S. group. This shows better health consciousness of

people in I.C.D.S. area. Patal (1982) has also observed declining trends in the prevalence of diarrhoea and skin infections in an I.C.D.S. area. Vasudova et al (1982) have reported diarrhoea, eye infections, ear infection, URTI and skin infections as principal causes of morbidity. Gupta et al (1984) have reported URTI, diarrhoea & dysentery, skin infections and etitis media as major causes of sickness in both the groups of children. Maheshwari et al (1985) observed that malnourished children suffered more with variety of illnesses at the time of study.

intestinel and respiratory infections as major causes of morbidity in pre-school children (Chai et al. 1970; Gulati 1974; Mata 1975 and Datta et al. 1975). Chandra (1978) and Tandon et al (1981) have reported URTI and diarrhoea to be the two major significant illnesses which has been in confirmity of present study findings. Whether it is diarrhoea or respiratory tract infections as a first cause of sickness which shows sessonal variation. It is evident that these are the two major sickness of pre-school age group.

in all ages. Percentages of sick children in both the groups aged 1 - 2 years was highest. This further confirms that 1 - 3 years age is the most vulnerable (Bakshi et al. 1977).

below 3 years of age to be ill at the time of study in an I.C.D.S. area. On the other hand, Tandon et al (1980) in the baseline survey of the project area (I.C.D.S.) have reported that about 9.0 percent rural pre-school children were sick at the time of study. These differences could be due to the differences in composition of population apart from the seasonal and regional variations.

## 5.8.2 Worm Infestation

中部及中國數量減 1995年1957年19 Out of the total stool sample examined (30.8 percent) in I.C.D.S. and significantly higher (39.1 percent) in Non-I.C.D.S. groups were positive for one or the other parasites. Better personal hygiene in I.C.B.B. group could be one of the factors responsible for this difference. Patel (1982) has also observed downward trends in the prevalence of worm infestation in an isc. D.D. area. interestingly there was no significant difference in the prevalence of Ankylostoma and the other parasites except in asceris. This could be attributed to the insignificant differences regarding senitary Asceris was found to be exercis disposil in the two groups. the most common parasite in 1,C.D.S. (25.8 percent) of well as in Mon-LiCable. (36.8 percent) group. Bildhaiya (1977). Dook! Namedam of al (1980), and Braz of al (1980) have reported

the prevalence of worm infestations (presence of one or the other parasite) ranging from 31 to 36 percent and Ascaris to be the most common parasite, which is similar to that observed in Non-I.C.D.S. group of children in the present study. Malhotra et al (1976), Gupta (1977), Chandra (1978), Gupta et al (1984) and Maheshwari et al (1985) have also reported ascaris to be the most common parasite encountered in their studies.

### 5.9 PERSONAL HYOLENE

In I.C.D.S. group, significantly lower proportion of children (44.0 percent) than in Non-I.C.D.S. group (69.7 percent) were having poor personal hygiene according to the criteria adopted. This shows the positive impact of health and non-formal education on the level of personal hygiene of I.C.D.S. group of children.

### 5.10 CRUDE BIRTH SATS

In the I.C.D.S. group, birth rate was 16 per 1000 population, while in Non-I.C.D.S. group, it was 32 per 1000 population.

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par 1909 live births as compared to 131.5 per 1900 live births
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gaputation. Gupta et al (1981) from Rajasthan and Shukla et al (1981) from Lucknow have reported infant mortality rate to be 124.0 and 117.6 per 1000 live births which have been higher with the observations of the present study in Non-I.C.D.S. group. Gupta et al (1984) reported infant mortality rate in I.C.D.S. group was 74.1/1000 live births, while it was 111.1/1000 live births in the Non-I.C.D.S.group. and Sunder Lal (1985) has reported infant mortality rate

population in I.C.D.S. group and 40.2 per 1000 in NonI.C.D.S. group. 0-1 year mortality in I.C.D.S. group was
89.7 per 1000 population as compared to 107.5 per 1000
population in Non-I.C.D.S. group and 1-5 years mortality in
I.C.D.S. group was 13.5 per 1000 population as compared to
21.2 per 1000 population in Non-I.C.D.S. group. This shows
that I.C.D.S. scheme have reduced the mortality. Oulati
(1967) has expected overall mortality in under five children
to be 64 per 1000. However, in 1981, 25-44 per 1000
mortality has been reported in pre-school children by the
Ministry of health Family Walfare, corresponds to the
observation of the Present study Samda Lol (1985) has Population
ovefall mortality in 1-6 years children to be 24.3 Region Sapulation,

Single major constitution and the person of the person of

observed tetenus neonatorum (30.5 percent), diarrhocal diseases (18.0 percent) and pneumonia (16.6 percent) as major causes of infant mortality, which is in conformity with the observations of present study in Mon-I.C.D.S.group.

Major cause in 1-5 years of age in I,C,D,S, area were respiratory infections and typhoid fever (40 percent each), while in Mon-I,C,D,S, area major causes were diarrhoeal diseases and marasmus (28,6 percent each).

## 5.12 UTILIBATION OF HEALTH SERVICES

## 5.12.1 Utilisation of medical care acomcise

I.G.D.S. group (71.4 percent) as compared to Non-I.C.D.S. group (54.9) were utilising government opencies for medical care either by paramedical including Angenvadi workers of Doctors. 20.1 percent in E.G.D.S. and 22.6 percent in Non-I.C.D.S. group depended on traditional healers, advice of relatives and meighbours or self medication. Natural trust by frequent home visits could be one of the reasons for better utilisation of government agencies as well as angenvadi workers has also been reported by Supta et al. (1981): Nout popular amongst the private practitioners has been those of the alloyablid system of medicine, which is been those of the alloyablid system of medicine, which

## 5.12.2 Antenetal care

and the second

children in I.C.D.B. (45.9) as compared to Non-I.C.D.B. (18.6) group availed antenstal care. Tandon et al (1981 A) have also reported increased coverage for ANC (53.3 percent) in comparison to their baseline survey (71.8 percent). Gupta et al (1984) have reported mothers of significantly more 61.3 percent children in I.C.D.B. as compared to only 19.9 percent in Non-I.C.D.B. group availed antenstal care.

## 5.12.3 Place of delivery and type of birth ettendent

Most of the deliveries in both I.C.D.S. (93.1 percent) and Non-I.C.D.S. (81.6 percent) groups were conducted at home, but significantly higher (39.2) percentage of home deliveries in I.C.D.S. as compared to Non-I.C.D.S. (11.0) group were conducted by trained personnel. This shows more awareness of the people regarding notal care in I.C.D.S. erea. Tandon et al (1981) in a baseline survey of different project area (I.C.D.S.) have reported more popularly of untrained personnel (untrained Dais, relative/neighbours etc.) in rural areas. Findings of this study in Non-I.C.D.S. group have been in concernity to the above mentioned study.

Sure, et al (1976) have observed that sejerity (92.7 percent) of the deliveries were conducted at home which is in line with the observations of the present study.

### 5.13 FEEDING PRACTICES

feeding of new borns in I.C.D.S. as well as in Non-I.C.D.S. groups. This has been in confirmity with the observations of Cupta (1979), Mirmel et al (1981) and Idris et al (1981) who have also noted the practice of breast feeding by almost all rural mothers. Prolonged breast feeding was observed in both I.C.D.S. and Non-I.C.D.S. groups, mean duration of breast feeding being 18.6 and 18.9 months respectively. Similar has been the observations of Sharms et al (1977), Bahl (1979), Katiyar et al (1981) and Ajay et al (1982) & Cupta et al (1984) who have also noticed prolonged total duration of breast feeding in rural area.

### 5.13.1 Meaning

weaning by W.H.O. (1973). Delayed weaning in rural area has also been observed by Sharma (1977), Bakshi (1977), Katiyar et al (1981) and Kumar et al (1981) and Cupta et al (1984).

In majority of the children of I.C.D.S. as well as Non-I.C.D.S. groups, cereals (83.7 and 84.4 percent respectively) and pulses (51.1 and 26.3 percent respectively) were used as weening food. Vegetables and fruits were taken only by 22.0 percent and 20.8 percent of children in I.C.D.S. and Non-I.C.D.S. groups respectively.

### 5.14 SUPPLEMENTARY SUTSITION

coverage for Vit. A and Iron & folic acid was significantly higher in I.C.D.S. (65.5 and 34.3 percent) as compared to Non-I.C.D.S. (17.2 and 10.9 percent) group. Sundar Lai (1980) has also observed increased coverage (So.6 percent) in repeat survey as compared to 2.3 percent in breaking survey. Zendon et al (1981 A) has reported that 43.6 percent strai children had received Vit. A supplementary nutrition through 1.C.D.S., as compared to only 6.0 percent at the baseline survey and Supta et al (1984) has reported that coverage of Vit. A and Iron 6 dolla acid was higher in I.C.D.S. (76.3 and 41.0 percent respectively) as compared to Non-I.C.D.S. (17.9 and 10.6 percent respectively) as compared to Non-I.C.D.S. (17.9 and 10.6 percent respectively) group.

Poregoing discussions clearly shows that through the integrated services coverage for supplementary nutrition has been tremendously increased. Possibly it is availability of these supplementary nutrients to the people (at Anganwadi centre of their village) and acceptability of these achieved through continuous health education.

No child in Non-I.C.D.S. and 27.4 percent children in I.C.D.S. group were given supplementary food. Coverage of I.C.D.S. group of children for supplementary food was much lower as compared to the observations of Sundar Sal (1980) and Tandon et al (1981) who have reported the coverage to be 97.0 and 57.3 percent respectively. Non-availability of supplementary nutrition at most of the Angenwadis, because of administrative reasons, could be the cause of the poor coverage found in the present study.

## 5.15 PERIODIC MEDICAL CHECK-UP OF CHILDREN

Higher percentage of children in I.C.D.S. (43.3) in comparison to Non-I.C.D.S. (9.9) groups had periodic medical check-up facility by A.H.Ms/H.V.

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CONCLUSIONS AND SUGGESTIONS

AND REAL PROPERTY OF THE PROPE

### CHAPTER VI

### CONCLUSIONS AND SUGGESTIONS

The following conclusions have been drawn on the basis of the observations of this study.

### 6.1 BIOSOCIAL CHARACTERISTICS OF THE GROUPS STUDIED

There has been no significant difference in the age and sax composition of the children of 1.C.D.S. and Non-I.C.D.S. study groups. Majority were Mindus in both 1.C.D.S. (95.0 percent) and Non-I.C.D.S. (99.5 percent) groups. Among Mindus, 11.8 percent and 26.1 percent in I.C.D.S. and Non-I.C.D.S. groups respectively were of upper caste and remaining backward and schedule castes. More than half of the children in 1.C.D.S. (61.7 percent) as well as Non-I.C.D.S. group (50.2 percent) belonged to family of more than 6 members.

of the families having agriculture. Majority of the children in both groups belonged to the families having per capita monthly income of No. 60 - 139.

### 6.2 ENVIRONAENT

common source of drinking water in 1.C.D.S. (76.6 percent) as well as Non-1.C.D.S. (86.6 percent) groups has been open shallow wells. However, a significant difference was observed regarding safe water supply, i.e. hand pumps which was more in 1.C.D.S. area.

There has been no significent difference in the methods of excrete disposal. Inscritary methods have been the commonest mode of excrete disposal in both the groups.

6.3 PRICHARD, LACTATING HOMEN AND PARTLY PLANTING ASSISTED

posity planning services were utilized in more
percentage in L.C.D.D. area of compared to Non-L.C.D.D. area

The need, therefore, is to educate and motivate to eligible couples for these services in both the groups by auxiliary nurse midwives, angenwed; workers and other health workers.

### 6.4 MUTRITIONAL STATUS

The values of anthropometric measurements - weight, height, were found lower in Non-1.C.D.S. group of children as compared to 1.C.D.S. group. The male children showed higher values then females for weight, height measurements in both the groups. Nean values of weight, height, in both the groups however, were lower than the 1.C.M.R. standards.

The weight-height index was below the standard (less than 0:15) at the age of 2\* years in makes and 1\* 4

2\* years in Semales of I.C.D.S.; and at 6 months to 3 years in makes and Semales of the Non-I.C.D.S. group. This has been indicative of better nutritional status of I.C.D.S.

group of children as compared to Non-I.C.D.S. and also of better nourishment of make children than the Semales in both the Groups.

Vitamin 'A' deficiency has shown significantly
lower prevalence in I.C.D.S. (0.7 per 100) as compared to
Non-I.C.D.S. (3.9 per 100) group of children. No significant
difference was observed in the prevalence of angular
stomatitis in I.C.D.S. (5.0 per 100) and Non-I.C.D.S.
(6.9 per 100) group.

of the total children investigated for Haemoglobin in I.C.D.S. (63.5 percent) and Hon-I.C.D.S. (82.4 percent) groups, significantly lower percentage of I.C.D.S. (19.3) than the Hon-I.C.D.S. (31.6) group showed a value of less than 10 gas. Only 4.2 percent in I.C.D.S. and 6.6 percent in Hon-I.C.D.S. group were having Haemoglobin below 7 gas indicating borderline answers to be more provalent in both the groups.

### 6.5 DEVELORMENT AND A DEPORT OF THE

Exempt in head holding and altring, all mile etems

[5] the dailates of heat-left file group were found eleminations.

[6] The dailates of heat-left file group were found eleminations.

## 6.6 PRIDING PRACTICES

and pulses were the common food items given as weening food to the children in both the groups.

### 6.7 PERSONAL HYGIENE

According to the criterion adopted, a majority (46.1 percent) of the children in 1.C.D.S. group were found having fair personal hygiene, while the majority (69.7 percent) in Non-I.C.D.S. group had poor personal hygiene, the difference being statistically significant.

### 6.3 MORBIDITY

A significantly higher percentage of children in Mon-I.C.D.S. (41.6) as compared to the I.C.D.S. (27.9) groups were sick at the time of study; average sickness per sick child being 1.2 and 1.3 respectively. Upper respiratory tract infections, distribute & dysenbery, skin diseases and fever have been the major causes of sickness in both the groups of children. Significantly higher provalence of distribute & dysenbery, and respiratory infections (10.9 & 15.4 per 100 respectively) has been found in Non-I.C.D.S. group as compared to the I.C.D.S. group (12.1 & 9.5 per 100 respectively).

### 6.9 CRUDE BIRTH BATE

Crude birth rate in 1.C.D.L. area has been 16 as compared to 32 per 1000 mid year population in the Non-1.C.D.L. area.

### 6.10 MORTALITY

Infant mortality rate in i.C.D.b. area has been 100.0 as compared to 111.1 per 1000 live births in the Hon-I.C.D.S. area. The mortality in 0 - 1 year age group was found 89.7 per 1000 population in L.C.D.S. group and 107.5 per 1000 population in the Mon-I.C.D.S. group. Single major cause of 0 - 1 year mortality in 1.C.D.s. area has been Respiratory infections (28.6 percent), while in Non-I.C.D.B. area the single major cause of 0 - 1 year mortality was Diarrhocal diseases (30.0 percent). The mortality in 1 - 5 years age group was found to be 13.5 per 1000 in I.C.D.S. and 21.2 per 1000 in the Non-I.C.D.S. groups. Respiratory infections and typhoid fever in L.C.D.S., maraness and distringed diseases in Mon-1.C.D.S. group were found to be the major killer in this age group. The mortality in 0 + 5 years age group was found to be 26.7 per 1000 population in L.C.D.S. and 40.2 per 1000 population in the Non-L.C.D.S. GROUPS:

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A elemificantly biolog percentage of children in Lacassa, (71,4) as compared to Man-1-2-2-4. (84-9) proups Name been unillated pressures pressures for medical cure. nothers of significantly more (45.9 percent) children in I.C.D.S. group as compared to only 18.6 percent in Non-I.C.D.S. group availed antenatal care.

both 1.C.D.S. (93.1 percent) and Non-I.C.D.S. (81.6 percent) groups, but a significant difference has been observed regarding the type of birth attendent. Najority of home deliveries in I.C.D.S. group (39.2 percent) were conducted by trained persons, while majority of the deliveries (69.7 percent) in Non-I.C.D.S. group were attended by untrained persons.

Coverage for all types of supplementary nutrition vit. 'A', Iron & folic acid tablets and supplementary food, was significantly more in 1.C.D.S. as compared to Non-1.C.D.S. group.

Significently more children (43.3 percent) in I.C.D.S. group as compared to only 9.9 percent in Non-I.C.D.S. group smalled periodic medical check-up famility by ASDM/NV.

### SUCCESTIONS

The following suggestions and recommendations have emerged on the basis of foregoing conclusions.

The health status of children studied from 1.C.D.S. area has been better than those of the Non-1.C.D..., yet there is emple scope for improvement which would follow the overall socio-economic development.

Programme of adult education particularly of women need be further strengthened so as to achieve functional literacy necessary for inculcation of health full habits and practices in the family especially children.

All out efforts need to be undertaken to improve the economic Status of the population. Implementation of newer agricultural techniques can be a positive step in this direction.

as a model for the women and children who avail its services. This may ultimately prove more effective in educating the community by developing aspirations amongst the women who may influence the head of families for appropriate action.

Though, the immunisation coverage is comparatively impressive but it is still below the satisfactory level and there is lot of mom for further improvement. Acquiar supplies of vaccines, storage facilities at sub-centres and motivation of the parents for getting their children immunisad, require a strategy for better achievement.

Attention need also be given to booster dose of D.P.T. and Oral Polio Vaccine.

personal hygiene, there is such to do. Angenwedie have to play a catalystic role in this situation. It seems that not much attention is given to this important aspect as many of the merbidity conditions observed, could have been prevented by improvement in personal hygiene. The need therefore, is not only to educate nothers and children but also to ensure that squarties is put to practice.

The both steel districtive and electric coverage that it is a second coverage to the second

There has been the signs of relative improvement in the nutritional status but various anthropometric measurements showed lower values than those of well nourished group of Indian children. It may be due to the fact that supplementary food is not regularly available to beneficiaries of I.C.D.S. scheme. This on one hand neutralises the effect of the supplementary food given earlier, and on the other it develops a sense of dependence and expectation in the beneficiaries.

of the programme. It is suggested that purchase of supplementary food should be entrusted to the local village committee which will take been interest in the availability of locally based supplementary foods and educate people about its necessity even if it is not available at Anganwedi centre.

and Auxiliary Nurse Midwives (A.M.Ms) leaves to be desired. It is worth considering that the officers of the respective departments be made responsible for imparting effective co-ordination amongst A.M.Ms and A.W.Ms so that they may not work in isolation but as complementary to each other.

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A I B D I O G R A P H Y

#### AEFERENCES

Agarwal, D.K., Agarwal, D., Katiyar, G.P., Tewari, I.C. and Agarwal, K.N. (1980). Morbidity pattern and source of first contact in rural under five children.

Ind. Pagg., 17: 931-937.

Agarwal, D.K., Kaur, P., Katiyar, G.P. and Agarwal, K.K. (1980). Pattern of care during pregnancy and lactation in Sunderpur. Ind. Jour. of Pub. Hith., 24: 2: 82-87.

Agarwal, K.N. and Agarwal, D.K. (1981). Infant Peeding in India. Ind. Jour. Peed., 49 : 285-288.

Ajit Kumar, Mathur, Y.C. and Harish Chandra (1972). A study of the morbidity pattern amongst pre-school children in a rural area. <u>Ind. Pand</u>., 2 : 327.

Ajit Kumar, Saleha Gureehi and Mathur, Y.C. (1976). Study of morbidity in pre-echool children in rural Hyderabad in relation to family size and birth interval. <u>Ind. Paed</u>..
12 : 123-126.

Ancille Szeplez (1984). The sole of beelth worker in an increase and child health programme in elume. Inde Paulse.

Processor in rural area of kokets inde Jours Fuels.

47 6 7 403-501.

Bahl, Lalita (1978). Some aspects of infant rearing practices and beliefs in tribal inhabitants of Himachal Pradesh. Ind. Pack., 16: 4: 337-341.

Banik, N.D., Krishma, R., Mani, S.I.S. and Lile Roy (1969).

A longitudinal study of morbidity and mortality pattern of children under the age of five years in an urban community.

Ind. Jour. Red. Res., 57 : 948.

Banik Datta, N.D., Krishna, R., Mani, S.I.S., Lila Roy and Taskar, A.D. (1970). A longitudinal study of physical growth of children from birth upto 5 years of age in Dalhi. Ind. Jour. Med. Res., 58: 135.

Sanik, N.D. (1982). Semi longitudinal growth evaluation of children from birth to 14 years in different socio-economic group. Ind. Paed., 49: 353.

Dakshi, A.C. and Phandari, N.R. (1978). Assessment of nutritional status of pre-school children in Bhopal.

Ind. Pagg., Vol. Ely. 8 : 615-623.

Baldwin, B.T. and Wood, T.D. (1925). Weight height age tables, mother and child. Etate University of Jove Press, Jove City.

Barcoah, P.P. (1977). Child Walfare, <u>The child in India.</u> Ed. 5 atva Cupta, Publication of Indias Pands, Oct. 1977.

Bengod, J.M. (1970). Popent trends in public health aspects of protein calories malnutrition. <u>Wester, Chronicle</u>, <u>26</u> : 522-561. Bengoa (1973). The state of world Mutrition. In : No Cheigl, M., ed., man, Food and Mutrition, Clevenlard, Chemical Rubber Company.

Bhandari, B., Nagori, G. and Mandowara, S.L. (1981).

Nutrition and Immunisation status of children in an ICDS

Block. Ind. Paed., 18: 187.192.

Bhandari, B., Chhaparwal, R. and Mandowara, L.L. (1981).
Outcome of children with severe grades of Protein Energy
Malnutrition in an ICDS Block. <u>Ind. Jour. Paed.</u>, 49: 289-292.

Bhattacharjee, P.J. (1986). The family planning programme, education and development - A case Study of Karnetaka. The Jour. Pamily Welfare, Vol. XXXI, No. 1 : 3-13.

Shatty, A. (1981). Mortality trends and Prospects among children in developing countries (An Abridged Review).

Ind. Jour. Pub. Hith., 25: 87-92.

Shargera, S.K., Kumari, ..., Choudhery, P. and Lai, V.S.

[1980]. A longitudinal study of physical growth from birth

to six years in children with birth weight of 2500 gms or more.

Ind. Pauls 12 : 405-501.

mildhelye, G.S. and Bose, S.C. (1977). A comparative study of health storus of infants and pre-school children of Jabelpur - Hadnya 2 redeats. Lods Your 1884. 11 257.

Brar, R.K. and Singh, S. (1980). Prevalence of intestinal Helmonthies. <u>Ind. Jour. Pub. Hith</u>., Vol. <u>XXIV</u>, 3 : 157-159. Chandra, P. and Vankataswany, G. (1978). Health and nutritional status of pre-school children in rural Tamil Hadu. Ind. Paed., Vol. 15: 6, 499-504.

Chandra, R.K. (1979). Murtitional deficiency and susceptibility of infection. W.H.O. Bull., 57(2): 167-177.

Chandra Sekhar (1972). Infant mortality, population growth and family planning in India. George Allen & Vnwiss Ltd., Suskin House, Huseum Street, London.

Charak Samhita (1949). English Translation.

Chaudhary, A. and Chaudhary, K.G. (1962). A study on morbidity pattern of children in an urban community.

Ind. Jour. Paed., 22 : 145.

Chaurasia, A.A. (1985). Organization aspects of family welfers programms in India. <u>Ind. Jour. Comm. Hed</u>., Vol. 3(3-4). 101-190.

Chaudhary, M.K. and Rem Krishen, N.R. (1973). Nutritional status of pre-school children in West Bangal and clinical observations. Ind. Jour. Page. 10 : 167.

Dattel, 1.5., Lelite Doll, Pres Supt. Shapinder of Oxpt. and S.L. Shares (1985). Immunication status of infants and children in L.C. D.C. Project in tibel area of Hissochal Project. Main Vol. 30, No. 10 205-294.

Dayal, M.S. (1977). Child Welfare Programmes. The child in India, ed. Satya Supta Publication of <u>Ind. Past</u>s, <u>October 1977</u>. Dayal, M.S. (1982). Expansion of Integrated Child Development Services. M.F.I. Bulletin : 2.

Deckinandan (1978). An epidemiological study of Protein Energy Halnutrition in the children aged below 6 years of a rural population of Uttar Pradesh. Thesis. E.D. (EPH). University of Luckney.

Decki Mandan, Singh, J.Y. and Srivestava, B.C. (1979). A study of some social fasters related to Protein Energy Mainutrition in a rural population. Ind. Jour. Comm. Hede. 6 : 3-8.

Decki Handan, Singh, J.V. and Srivestave, S.C. (1980).
Intestinal norm infestation and their influence on
nutritional status of Village children. <u>Ind. Jour. Comm. Heder</u>
5 : 29-32.

pretty, a.p., Scholyne, D.H., Rale, P.Y. and Rangervery,
(1971), prettyletten of meteorial and include Care in a substi-

Desveran Pervethi, Suri, V. and Derces 2... (1976) Incidence of melnutrition aspec enlected pre-school Children. <u>Inde</u> Joseph But & Marchelle 22, 22

scles, C.H., Combs, W.B. and Macy, H. (1943). Milk and milk products. 3rd. Hew York, p. 1.

Ghai, O.P. and Sendhu, K.K. (1968). Study of physical growth of Indian children in Selhi. Ind. Jour. Pand., 35: 91.

Chai, O.P. and Jaisvel, V.N. (1970). Relationship undernutrition to diarrhoes in infants and children. <u>Ind. Jour.</u> Mad. Res., 50 : 789.

Ohosh, S. (1977). The feeding end cere of infants and young children. (UNICER, 1976). New Delhi. <u>Voluntery Health</u>

Gopalen, G. (1968). Health problems in pre-school children (III). Norld-wise experience; special problems and preventive programmes(I). Ind. Jour. Trop. Pant. . 14 : 228.

Gopalan, C. and Handsmuni Haidu (1972). Butsition and Postility. Lancat, Nov. 48.

Copaler, C. (1977). Nutrition and public health + the current Indian scene. <u>Busther Hind</u>., <u>Ali</u>, 11, 332.

Gordon, J.E. (1976), Symorgism of melnutrition and infectious discusse. Milled, Management Sec., 52 : 193-269.

Gulati, N. (1974). A comparative study of morbidity among children below five years. Lifetister Res Bull. 21 4 29.

Capta, D.R., Sgivestova, D.C., Vicya Unushan and Sharma, P. (1984). Impact of the integrated Child Development Survices in Detar Product. <u>Ind. Joura And. Res</u>., 79 8 PP 363-378. Cupta, S.D., Jain, T.P., Joshi, S. and Mangal, D.K. (1981).

Infant mortality in Rejecthan Villages. Ind. Fand., 18 :

101-105.

Gulati, P.V. (1967). Mortality rate and causes of deaths among children below five years. Ind. Jour. Paed., 34 : 235.

Gupta, K.B. and Walia, B.N.S. (1980). A longitudinal study of morbidity in children in a rural area of Punjab.

Ind. Jour. Pact. 47: 297-301.

Gupta, K.B. and Walia, B.H.B. (1981). Utilisation of health facilities by sural children. Ind. Past. 18: 4, 217-221.

Gupta, M.C. (1980). Intestinal parasite infections and malnutrition. Ind. Jour. Pand., 47 : 503-509.

Gupta, Mukeen, Jako Adhok and Singh, S.H. (1978), Mutchtional Stabus of presenced children in Mestern Rajasthan.

Cupte, S.D. (1977). Study of Heelth including nutritional status of children aged 1-4 years in area of Sural Health Control Mails (Decks for Nutr. 1988). Balantham.

Cupto, DeP., Jain, T.P., Josh L. S. and Mangel, DeK. (1961). Intent mortality in Rejection Willeges. <u>Ind. Pact</u>., 18 : 101.

Gupta, S. and Srivestava, G. (1977). Childhood morbidity in relation to number in unitory and joint families.

Ind. Pagg., 14: 837-840.

Higgins, T. (1952). B.M.J., 377.

Hurlock, E. (1950). Child Development. 3rd Ed. F. 26.

I.C.M.R. (1974). Growth and physical development of Indian infants and children. Tech. Rep. Sec., 18.

I.C.M.R. (1974). Annual Report 1974 - <u>National Institute Of</u> Nutrition, Brdecabed.

Tach. Rep. Ser. 26.

Idrie, M.Z., Semena, S.C., Malik G.K. and Srivastava, G.C.
(1981). Peeding practices and diarrhoeal episodes among surel
and urban infants of Lucknov. <u>Ind. Fand</u>. 18 : 311-316.

I.C.M.R. (1974). Studies of woming and supplementary foods.

Indice Sel, K., Shaptry, V.S., and Chandre, C. (1981).

A comparative study of feeding pattern of infants in Fural
and Mater Areas. <u>Inda Joura Pand</u>e, 59 , 277-280.

Core Nove - . Dozel Bejen - end Reju, V.B. (1977). Survey of 1.400 featline in urber Nove of Redcom City - Albertait bit need Nove - Reserved to 1985 inc. Plant Ben Louise Jelliffe, D.B. (1966). The assessment of the nutritional status of the community. N.H.O. Monograph Ser., No. 51.

Joseph, J. (1976). Immunisation status in a rural community - study of 360 femilies. Ind. Jour. Pediatr., 13: 928-933.

Kalra, A., Kalra, K. and Deyal, R.S. (1982). Breast feeding practices in different residential, economic and educational groups. Ind. Pack., 12 : 419-426.

Kanawati, A.R. (1970). Assessment of marginal malnutrition.

Katiyar, G.P., Agarwal, D.K., Tripethi, A.M. and Agarwal, K.H. (1981). Paeding practices in Varanasi District. <u>Ind. Paed</u>... 18 : 65-70.

Khan, A.L., Ahmad, P., Hassan, B. and Singh, S.H. (1981).
Impact of family size on the morbidity pattern of pre-school children. Ind. Past. 18: 2: 107-111.

Kesares, N., Shiyamurty, K.S., Prokash, D.S. and Marides, G.K. (1981). Feeding pattern of infants in Devengers. <u>Ind. Souts</u> <u>Pantes do</u> : 281-284.

Kotheri, V., Rekerji, D. and Kaul, K.K. (1992). Health Services utilization in Feral eress. <u>Red. Pard</u>., 12 : 47, 301-31

Kunner, A., Cureshi, S. and Matheur, Y.C. (1976). Study of morpidity in pro-school children in relacion to family size and birth intervals. Discussion is solution. Land Berger Max (1964). Some Paediatric mile-stones of 19th century. Amer. Disc. of Child., Vol. 108, 2, 205-208.

Luwang, N.C. (1981). A comparative study of the weight pattern in children under five years of age in Hill and Valley area of Menipur. Ind. Page. 18 : 5 : 283-286.

Luweng, N.C. (1980). Protein Energy Helmutition emong pre-school children in a rural community. <u>Ind.</u> 2866.

Madhavi, V., Res, N.D. and Mathur, Y.C. (1974). Feeding and weaming practices in the village Fatehour - Myderabed.

Ind. Pasts, 2 : 48.

Matricional Status and as determinant of past and process
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Malhotes, P. and Present, S.G. (1966), morbidity emong children below five years of age is an urban area in Delhi, III headles -The emphising in gameral, <u>life Jones west Res</u>. Ed 8 385.

Man Mohan, Shanti Ghose and T.K.T.S. Ramanuj, Charyulu (1980). Assessment of malnutrition by mid arm circumference and its ratio to head circumference. <u>Ind. Paed.</u>, 17: 503-506.

Hete, L.J. (1975). Halnutrition infection interactions in tropics. Am. Jour. Trop. Hed. Hyg., 24 : 564.

Mathur, H.N. (1978). Analytical study of malnourished children in rural area. Abstracts of papers presented at VIII Alapsn at Udalpur.

Mathur, J.S. (1974). Nutritional disorder among children below five years in a rural community. <u>Ind. Jour. Pand.</u>, 41 : 104.

Nothur, S.M. (1978). Profile of melapurished children in urben area. Abstract of Decire Proceeded at Yili Aleges at Udalphi.

Nathur, Y.C. and Ajit Kumar (1979). Norbidity and mortality
in children: <u>Social Fundiatrics</u>, page 32, bill. Satya Sapta.

Publication of Indian Facilityics. Set. 1979.

Mehrotra, S.K., Mather, J.J. and Mahashwark, B.D. (1976). Spidentological aspect of sutritional ensemble in children below 5 years. <u>Int. Jour. Page</u> 45

Mottler, P.A. (1967). History of Medicine, PP. 696-702.

Microla Maca Continue Array Continue ( 1900) - Macan Microla Continue ( 1900) - Macan Microla Macan Ma

13.4

STEEL STEEL

Mohil, D.F. (1987). Vaccination coverage assessment survey in Sismour district (Himachal Pradesh). Communicable Diseases Sulletin., Vol. 4: 2: 19-24.

Morley and Mahler (1977). Expanded programme on immunisation.

Compendum of Tech. paper. Directorate of Medical Health

Services and Family Welfare, U.P., Lucknow.

Murali, J. and Kataria, M. (1980). Perception regarding need for motematal care among sural and urban woman in Delhi.

13d. Jour. Pub. Hith., 26: 2: 68-75.

Nutrition News (1982). National Institute of Nutrition. Vol. 3, No. 3, May 1982.

Petel, R.B. and Udeni, R.H. (1982). Impact of ICDS on preschoolers of urban clume. Ind. Jour. Paed., 49 : 215-218.

Patowary, A.C. (1982). Svaluation of the nutritional status of the children in the ICES, Boko, Assac in relation to the nutritional status of children in other ICES Blocks in Assac and elsewhere. Abstract of papers presented at Annual Convention of Integrated Child Development Services, held at Dolhi.

Philip, N., Saraba, C. and Mathew, K.J. (1976). Insumination Status of pre-school children in a march area. <u>Inc. Part</u>.

Presed, K., Cupte, V., Presed, J. and Pende, D.H. (1980). Mid-arm/head circumference ratio in the assessment of Protein Calories Malnutrition. <u>Ind. Pand</u>., <u>12</u> : 625. Presed, R.A.O., D.C.V. and Vijai Raghavan, K. (1974).
Nutritional status of children in urban slums around
Hyderabad city. Ind. Jour. Hed. Res., 62 : 10, 1492-1498.

Puffer, R.R. and Serrono, C.V. (1973). Pattern of mortality of childhood. P.A.H.U. Scientific Publication, Washington.

Puri, R.K., Ashok Kumar, Khanna, K.K. and Rao, D.C.W. (1976). infant feeding and its effect on growth and development of children. Ind. Jour. Faed., 43: 347-361.

Ramesh Humar, Kalka, K. and Dayal, R.S. (1978). A survey on the immunisation status and breast feeding practices of infant of Agra. Ind. Pagg., 15: 107-115.

Reddaitie and Nath, L.M. (1978). Infant mortality in rural area of comprehensive rural health services project, Ballabhgarh. Ind. Pagg., 7: 547.

Reo, K.V. (1978). Nutritional status of pre-school children and related factors. <u>Ind. Jour. Nutr. Dictot.</u>, 15 : 233.

Sahu, K.L., Maya Chaurasia, Thora, S. and Kaul, K.K. (1985).

Immunisation status of children below 5 years in defined nural population. <u>Ind. Pediatr</u>., 22(6): 421-6.

Sestri, I.C. (1973). Use of anthropometry in grading of melmutrition in children. <u>Ind. Jour. Ned. Ros</u>., <u>61</u> : 1225-32.

Samena, P.N. (1982). Claspees of a child health status in ICDS Aligned (urban) Lucknov. <u>Abstract Convention of</u> Integrated Child Development Services, held at Debt. Secani, N. and Lathum, N.C. (1971). Child health and environment. Jour. Trop. Page. 17: 98.

Serimshow, M.S., Taylor, C.E. and Gordon, J.E. (1968). Interactions of nutrition and infection. W.H.O. Monograph Ser., 57.

seth, V. and Chai, O.P. (1971). Feeding habits of infants and pre-school children in urban, semi-urban and nural community. Ind. Page. 2 : 452.

Shah, P.M. (1975). Feeding practices in rural community, Palghar. Ind. Page. 12: 73.

Shakir, A. (1972). Pattern of Protein Calories Mainutrition in young children attending an out patient clinic in Daghdad. Langet, 2, 143-146.

Sharma, D.B. and Lahori, U.C. (1976). Some aspects of infants rearing practices and ballods in urban and rural areas of James (Kashair). Ind. 2402. 14 511.

Sharms, D.D. and Lahori, U.C. (1977), Pending patterns of infants and pre-school children in urban and rural areas of famou (Kashalr), Ind. Pani. 14 , 207.

Sharma, G.D. (1981). Food and Nutrition Atlas, State of Uttar Pradesh. Food and Nutrition Board, Ministry of Agriculture, Department of Food, Government of India.

Sharma, P., Siddhu, C.K.S. and Prasad, B.G. (1972). Feeding pattern and nutritional status of children under five years in an urban area. Ind. Paed., 2 : 532-539.

Sharma, R. and Chaturvedi, S.K. (1978). Basic health care in developing countries - An epidemiological perspective. Edited by Basil, S. Hetsel, Oxford University Press, New York, Toranto.

Shiveres, C. (1969). Repeat general health survey in a group of villages in the eres of Sural Health Training Contre, Serojini Heger, Themis for H.D.(SPH), Luckney University.

Shiveren, C., Presed, B.O. and Baldoo Rej (1970). Repeat general health survey in a group of villages in the area of Rural Health Braining Centre, Sarojini Nagar. Inda Jones Hada Rep., 158: 1134.

Shukla, A.W. (1981). Infant mortality and etiological study. Thesis submitted for N.D.(SPN), University of L-ucknow.

Fingh, C.B. (1970). A general health survey in group of villages around Experimental Teaching sub-centre, Santhra. Thesis submitted for NeD.(828) Luckney University.

Siddhe, C.M.S. and Skivastava, B.C. (1970). Health Status of infant and pre-school enildren in different socia-cultural groups. <u>Ind. Jour. Pub. With</u>.. 14 : 11, 1-10. Siddiqui, M.I.A. (1983). An epidemiological study of melnutrition amongst children under five in a rural area of district Jhansi (U.P.). Thesis submitted for M.D.(SPM) Bundelkhand University, Jhansi (U.P.).

Singh, R., Frasad, B.G. and Teotia, S.A.S. (1971).

Nutritional status of rural population in Gauri, Lucknow

District. Annals of Ind. Acad. of Ned. Sci., 7 : 2, 123-128.

Disorder in Surel Rajasthan. Ind. Jour. Paed-, 47 : 199-202.

Sharms, V. (1976). A long study of morbidity in children upto 5 years in an urban community of Jaipur. Thesis submitted for H.D.(SPM), Rejection.

Szinivasan, D.K., Denabelen, M. and Anand, D. (1976).

Cortain expects of infant mortality: A prospective study
in an urban community. <u>Ind. Pack</u>., 12: 409-414.

Srinivasan, K. (1983). India's family planning programms - its impact and implications. The Jour. Panily Nelfare.

Yol. No. (2) 6 7-25.

Scivestare J.P., Cortle, N.K. and Scivestar (1980). Butcitional enthroposatry of pro-school children in Euro population of Thomas District. <u>Localoured Not</u> 1880

Correl (2016)

Srivestava, V.K., Bhushan, V. and Srivestava, S.C. (1978).

A study of Protein Energy Halmutrition in a rural
population of Lucknow. Abstract of papers presented at

VIII AsiaAsPsB.M. Conference at Udaipur.

Srivestera, V.K., Srivestera, B.C., Decki Nanden and Vidya Shushan (1979). Protein Snergy Malnutrition among pre-school children in a rural population of Lucknow.

Ind. Paed., Yol. XVI: 6: 507.

Stuart, H.C. and Stevenson, S.S. (1959). Heleon text book of Pandiatrics. 7th Ed., Philadelphia, W.B. Saunders Co.

Sunder Lel (1980). Better primary health care services utilisation through Integrated Child Development Services scheme in Haryana. And Jours Pand. 47 : 293-296.

Sunder Lal (1932). Augenwedt Worker as Primary Health Care Workers for Vulnerable groups in rural 1.C.D.S. project area. Ind. Jour. Comp. Nod., 2 : 1 : 19-24.

Sunder Lal (1982). Monitoring of severally malnourished children and domiciliary management in rural settings by Angunyadi Workers under integrated Child Development Services Scheme: Ind. Parks, 12 : 5 : 409-413.

Sunder Lel (1983). Integrated Development and Growth performance of under stres in L.C.D.S. Project Mathematic (Manyana). <u>Ind. Jour. Comm. Red</u>. 3 : 1 : 20-24.

Sunder Let (1985). Sarly childhood mortality in ICRS blocks of Maryana. <u>Ind. Jour. Comm. Med</u>., <u>Vol. X(</u>1) : 21-28. Suri, A., Panag, P. and Mehta, S.P. (1976). An epidemiological study of tetanus in meonate. <u>Ind. Jour. Pray. &</u> <u>Soc. Med.</u>, 7: 100.

Suvarna Devi, P. and Behera, P.L. (1980). A study of breast feeding practices in South Orisea. <u>Ind. Paed.</u>, <u>17</u>: 753: 756.

Tandon, B.W., Ram Chandran, K. and Bohetnager, S.K. (1981). Integrated Child Development Services in India : Evaluation of the delivery of nutrition and health services and the effect on the nutritional status of the children.

Ind. Jour. Hed. Res., 73 : 385-394.

Tandon, D.N., Ram Chandran, K. and Mhatmagar, S. (1981) Integrated Child Development in India - Objective, Organization and baseline survey of the project population. Ind. Jour Rad, Ram, 13 174-184

Tundon, B.R. (1962). Integrated Child Development Services.

Central Committee on Health and Butrition - A.1.1.8... New Delhi

Tandon, B.W. (1984). Impact of I.C.D.Services on infant mortality rate in India. Langue, 21 , 2 (8395) 157.

Tomar, B.L., Memondra Singh and Singh, R.N. (1982). Health sub-centres and child health (Part II). Inc. Pact., 19 :509-514.

Tomar, B.s., Henomore Singh and Singh, S.S. (1982). Health sub-centres and Child health (Part I). <u>Ind. Pact</u>. 19 : 499-509. Thism Yamma, B.V.S. and Naidu, A.N. (1976). Age assessment of rural pre-school children by use of local calender.

Ind. Jour. Nutr. and Diet., II: 264.

Udeni, P.M. (1963). Physical growth of children in different socio-economic group in Bombey. <u>Ind. Jour. Child Hith.</u>, 12 : 593.

Udani, R., Chothani, S., Arore, S. and Mulkerni, C.S. (1988). Evaluation of knowledge and efficiency on Angenwedi workers. Ind. Paed.

UNICEF (1982). Reading in infant practices - Part I. Infant Feeding Fractices.

Vendena Sen, Purohit, S.K. and Jain, T.P. (1980). Weight/ Height<sup>2</sup> ratio in assessment of Protein Energy Halmutrition. <u>Ind. Pags</u>. 17: 135-138.

Vasudera, V.L., Sunder Lal and Dansal, S.A. Study of prevalence of sickness in children below three years of age and identifying the risk factors of a sural community of naryana (Kathura Block). Abstracts of papers presented it annual Convention of Integrated Child Development Services.

Vasundhara, M.K. and Srinivasen, B.S. (1983). Integrated Child Development Services - impact on fertility regulation.

The Jour. of Family Helfare, Vol. XXX(1): 3-7.

Vasundhara, M.K. and Srivastava, B.S. (1982). Impact of ICDS in acceptance of fertility regulation. Abstract of papers presented at Annual Convention of Integrated Child Development Services, held at Delhi.

Verma, B.L., Arun Kumar and Srivestava, R.M. (1980).
Nutritional profile of children in a rural community Finding of two surveys. <u>Ind. Jour. of Jub. Alth.</u>, 24:
3 : 140-149.

Walia, B.N.S., Gambhir, S.K., Hereng, A. and Gupte, K.B.
(1978). Sysluction of knowledge and competence of Anganwadi.
workers as egents for health care in rural population.

Ind. Pagg., 15 : 10 : 797.

Wells, B.W.S. (1981). Child health and VI Pive Year Plan. Ind. Pagg., 18 : 783.

Weterlow, J.C. (1960). Advance. Proten. Chen., 15: 131.

W.H.O. (1949). Tech. Rep. Ser., No. 10.

Applies the street of the street

Well.O. (1971). Eighth Report of the Joint FAG/MED Expert Committee on Mutrition. <u>Took. Rep. Sec. No. 477. Geneval</u>

M.H.O. (1972). Report of MHO Group of Export on Mutritional Annuals. <u>Tech. Map. Ser. No. 50%, Seneva</u>.

W.M.O. (1976). Better food for a healthier world.

W.H.O. (1976). Food and Nutrition of Strategies in National Development. W.H.O. Tech. Rep. Ser. No. 584.

M.H.O. (1976). New Trends and approaches in the Delivery of maternal and child health care in health services.

Tech. Rep. Ser. No. 600.

W.H.O. (1976). Vit. A deficiencies and Xerophthalmia. Tech. Rep. Ser. No. 590.

M.H.O. (1976). Nutrition in Proventive Medicine. Monograph Series No. 62, Genera.

W.M.O. (1976). World Health Statistics Report. Vol. 29. Ho.10.

W.H.O. (1977). Control of Asceriasis. Tech. Rep. Lox. No. 379.

W.H.O. (1979). Training and utilization of Auxillary personnel for rural health teams in developing countries. Tech. News Ser. Nos. 523-

W.H.O. (1982). Control of Vit. A deficiency and Xerophthelaid. Coch. Nep. Sqr. No. 572.

W.H.O. (1987), Children Health - Tomorrow's weblin-Ind. Jour. Pagges 54 : 33-34.

Norld Heelth (1974). Setter food for a healthier world-

Simmer, R.R. (1948). Hindu Medicine. Bellimpre, Red., P.107.

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# APPENDIX

# A. PANILY SCHEDULE

			Control of the Contro	
S.No			Village :	
Date				
I. 0	eneral informations			
1	. Name of the Head	of the family		
2	. Religion : Him	du / malim /	Christian / Oti	here
3	. Capte : Upy	per / Backward	/ Schedule cast	te / Others
4	. Nature of family	. Joint /	Nuclear	
5	. Size of family	. Male	Femal e	Tot al
6.	. Children below 6 y	rs.: Mele	Female .	Total
7.	. Main family occupa	tion:		
	a) Agriculture			siness
	d) Service		profession/Arti	1114
	f) Deggary	d) cuere (	specify) a.g. S	
	amily income :			
	. Total income (per			
2.	. Fer capita income	(per month) :		
111. Sq	retat Glass	1.40.20	1/11/111/	ZV / V
IV. En	vicument r			
1.	Envisonment surrou	nding the hous	e i Nyglanio /	Unhygienic
<b>.</b> 2.	Number of living A	John Carle	11/2/3/	4/8
2.	Over-crowding		. Present / A	Mest :
•	<b>Yentiletion</b>		. Adequate /	Anadequate
5.	water supply		. Done tube t	
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	1.	No.	of	birt	hs									
	2.	No.	95	deat	has									
			Age	•			***							
			50				***							
			Cas	ise o	f dea	th	***							
Se	hed	ule :	for	Pred	nant	& La	cta	tine	Mone	n en	d Fa	mily	Plan	ning
								V IC 6						
							***	-						
A.	Pr	egn ar	at s	i) men	•									
	a)	N am						Sat						
	b)	Hus)	bend	*s n	eme			SEL						
	<b>c</b> )		He	nshi na of	the	h								
	4)	Age												
	e)	Pari	Lty											
	£)	Dur	atic	n of	preg	nanc,	**							
	9)	N o	of.	Tivi	ng ch	ildr	en	2 24	ale	•				
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C. Family Planning Services -

: PHC/Sub-Centre / Covt. hospital /

Privata

By whom

Angenwedi / A.M.m./Doctor

Side effects & complications :

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## B. INDIVIDUAL SCHEDULE

1.	a) Father's name	
	b) Educational status	: Illiterate/Primary/Middle & above
	e) Occupation	
2.	a) Mother's name	
	b) Educational Status	: Illiterate/Primary/Middle & above
	c) Occupation	
3.	Name of the child	
4.	Deto of birth	
5.	Age and sex a Property	
6.	Sirth order	1 1/11/111/W/V
7.	Antenetal care evalled	1 1 700 / No (1)
	If yes, by whom	s Angenwedi/A.N.M./Doctor
	Place of delivery	. Nome / Hospital
9.	Birth attendent	: Trained / Unitained
10.	Peeding History	
H	a) Total duration of breast feeding	Andrew Control Control of Control
	b) Age at wearing	
		ed : Milk/Cereals/Fulses/Sgg/Heat/
	es mounted	Yegetable / Others.
2.	Mile stones of developmen	s (age in months) s
	a) Heed bolding	
1	b) Sitting	
	c) Teething d) Grawling	

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e) Standing
     f) walking
     g) Talking
 12. Immunisation :
     a) Bacada
     b) D.P.T.
                                : I / II / III / Booster
     c) Polis
                                : I / II / III / Booster
     d) Reasles
13. Type of medical care evailed :
         - Government agencies
         - Private Practitioner (Allopathic/Homeopathic/
                                Ayurvedic/Quacks/Others)
14. Type of supplementary nutrition given :
    a) Vit. A supplementation : Yes/No; If yes how frequently:
    b) Iron & Folic acid ' i Tes/Nor If yes how frequently:
    c) Supplementary food | res/No; if yes how frequently;
15. Periodical Redical check-up: Yes/No. If yes how frequently:
16. Personal hygiene :
                              : With soap/with clay/with water/80
    a) Washing of hands
       after toilet
                              : Daily / Irregular / Rare
    b) Mouth/Teeth cleaning
                              . Daily / Erregular / Rare
    c) Bathing
                              s Dirty / Clean
    d) Hairs
                              e Cut
    e) Hails
                               Not cut - Dirty / Clean
17. History of present illness: Present complaints if any :
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18. Clinical Examination a) General Examination - Positive finding : b) Systemic Examination - Positive finding : c) Diagnosis - if any : 19. Anthropometric measurements a) Height (ems.) b) Weight (hgs.) c) Malnutrition 1 1/11 / 111/1V/H 20. Laboratory Investigations a) Haemoglobin ..... gm. percent b) Stool - Hegative/ Ascariasis / Ankylostomiasis / Giardiasis / Ascebiasis / Strangeloids.

21. Field notes if any

#### KEY TO THE SCHEDULES A & B

- 1. Head of Family: Head of the family was considered as one who was recognised by all members of the family, as their head (Ramadwar, 1960).
- 2. <u>Family</u>: It is a group of biologically related individuals living together and eating from a common kitchen (Fark, 1971).
- 3. Nature of Family :

Nuclear : Family consisting of husband, wife and their children.

doing : Family consisting of inlaws and other blood relations in additions to husband, wife and children.

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- A. Bourational Status + page 1 minutes of the page 1 minutes of th
  - Illiterate \* Those who can not read and write

    Friedry \* Those having formal education upto standard V.

    Light along \* Those who received School education
- Transfer for the solution of t

- 5. Environment Surrounding the House: if the locality surrounding the house was congested with dumps, refuse, casspools and presence of house flies and mosquitoes in large numbers, it was grouped as unhygienic, other locality, if any were called hygienic.
- 7. <u>Yer-growding</u>: A house was classified as over-crowded if occupancy per room exceeded the following standards:

Number of rooms

CONTRACTOR OF THE PARTY OF						A CANADA
	One			200		
	200			Three		
	Three			Pive		
	Pour	V W		Seven a	nd e h	alf
	71ye or not	· Marita presidence	144	tan per tur	eons (	edditios furthes

Manufacture existence of new

room)

(A baby under 12 conths is not counted and children 1 to 10 years counted as half unit).

Something the section of the section

- A door and window facing each other, window opening into open area and total area of doors and window not less than one-fifth of the floor area, the ventilation was recorded as adequate, otherwise instances.
- 9. <u>Excrets Disposed</u> s If it was a vetersonl (F.R.A.I. type) latring, it was noted as sanitary, Otherwice insanitary.

- 10. Hearing : It is a process of change of an infant diet from mother's milk/milk to semi-solid or solid foods, age of wearing is recorded as the age when semi-solid or solid food is regularly given to the child.
- 11. Grading of Protein Snersy Malnutrition : Protein Emergy Malnutrition has been graded in four categories as recommended by Indian Academy of Paediatrics (1972).

Normal - upto 80.0 percent of 50th percentile of Hervard Standards.

Ist degree - 71 - 80 percent of 50th percentile of Harvard standards.

2nd degree + 61 + 70 percent of 50th percentile of Hervard Standards.

3rd degree - 51-60 percent of 50th percentile of Heryard Standards.

4th degree - 250 percent of 50th percentile of Harvard Standards

(Course + Sutrition Sub-Consistee of Indian Academy of Paediatrics - Report of Convenor - Indian Paediatrics, 9 : 360; 1972).

- 12. Personal Hydians : Level of personal hydians has been essented by following scoring method : Maximum marks : 10
  - (a) Washing of hands after totlet : 2
    with Body 2, with clay 1, with water 1, None 0.
  - (b) Mouth/Teath cleaning : 2. Daily - 2. Irragular - 1. No - 0.

(c) Bathing : 2, Daily - 2, Irregular - 1, Rare - 0.

(d) Mairs : 2, Clean - 2, Dirty - 0.

(e) Heils : 2, Cut - 1, Hot cut - 0, Clean - 1, Dirty - 0.

Status						MARIE.					
Good					0		10				
Fair		*			5	-	7				
Poor					Le	6.0	*	) qu			

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